

about 30 millions a year on local purposes, or about one hundred times as much in proportion to the population as the present Bill proposes to raise.

He hoped the Council and the public generally would consider that the framers and supporters of this Bill were not proposing unnecessary burdens on the public when they asked leave to provide 50 lakhs a year for internal communications in Bengal.

But there were thinkers in this Council, and outside these walls, who might perhaps concede that 50 lakhs was no more than was wanted for the purposes in view, but who joined issue as to the best mode of raising the money. They urged that the necessary funds could be very much better raised by an extra tax on salt, which was a cheap commodity, and was used in small quantities by everybody. It was urged that no one would feel a slight addition to the salt tax. Now, he had just come from a part of India where the people and the officials were sighing for the long-hoped-for, long-deferred removal of the inland customs line, and for the reduction of the salt tax. And it seemed strange to him to find a consensus of opinion in favor of raising the salt tax of Bengal, where the duty was already higher than in any part of India. If the Council would bear with him for a few moments, he would submit a very few facts regarding the effect of the Bengal salt tax. He found from the Bombay price current for March, that in Scinde, where the salt tax was merely nominal, the price of salt was Rs. 1-2 a maund; in the littoral districts it sold at from Rs. 1-14 to 2-12 a maund; and the dearest salt in any part of the presidency was at a place far inland, where it sold for Rs. 3-7 a maund. In Madras salt was about as cheap as in Bombay. In Bengal salt was cheapest at Calcutta, where it ranged from Rs. 3-12 to 4 a maund; the average price over the greater part of the province ranged from Rs. 5 to 6 a maund; and in some inland districts the price was between Rs. 7 and 8 the maund. Thus salt was twice as dear all over Bengal as it was in the Bombay presidency; yet wages and the price of produce were higher in the western presidency than they were here. Even in France, where the people were about five times as rich as they were here, the salt duty was only Rs. 1-8 a maund, and it was only in these days of terrible need that the economists of France thought of raising the salt duty up to our Bengal rate.

It seemed as if no impartial thinker could hold that Bengal salt was unduly cheap, or that the best way of raising local rates in Bengal would be to enhance the duty on the salt, which the rice and fish-eating peasant of Bengal required much more largely than his corn-eating brother of the North-Western Provinces.

He could hardly hope that any dictum of his would carry much weight in this Council, more especially when, at a recent meeting of this Council, men of wide experience in Bengal expressed directly opposite opinions. But perhaps the Council would allow him to read a few lines from a valuable report by Mr. W. Pedder, who has recently investigated the facts of the Bombay salt trade and salt duty. Mr. Pedder, when speaking of a discussion which took place in 1861, wrote—

"The Government of Bengal strongly urged the justice of raising the salt tax in other provinces to the level of that in Bengal. The Lieutenant-Governor argued in effect that the salt tax is essentially a poll-tax or a laborer's tax; that differences between Bombay or Madras and Bengal in respect of the comparative wealth of the commercial or landed classes do not affect the question; and that the only just reason for taxing the wages higher in Bengal than in Madras or Bombay would be that they are better off, or that their wages are higher than in the latter provinces, which (Mr. Pedder here adds) is notoriously not the case." Mr. Pedder goes on to say: "The only reply to this argument appears to be that, in justice to the rest of the empire, Bengal must somehow substitute something like its share to the imperial treasury, and that if former legislation in Bengal has alienated the property of the State, or has made it impossible to tax the rich, it becomes necessary to increase the burden upon the poor."

Now these remarks of Sir J. Grant, and the commentary thereof by a well-informed and intelligent investigator, seemed entitled to much weight at a time when it had been suggested that the Bengal salt tax could be raised even higher than it now is.

He had trespassed so long on the patience of the Council that he would only add a very few words regarding the mode of assessing the rates under this Bill. The chief characteristic was that the rate-payers were to make their own valuation of their property; that the district committee was to decide yearly the rate of the tax; and that the district committee were to have the fullest control over the expenditure of these rates, so long as they were spent on purely local objects. Perhaps the select committee, if this Bill ever gets to that stage, might devise some provisions for permitting the mode of assessment to vary in accordance with local circumstances, instead of having one hard and fast rule for the fifty-nine districts of Bengal. Probably it would have been simpler if the framers of the Bill had asked the Council to empower the executive government to make rules and regulations on many of the matters for which the Bill provided. But it seemed more loyal to this Council, and fairer to the public, that the Bill should contain a full exposition of the system under which the local rates were to be levied under ordinary circumstances in an ordinary district.

If the Bill ever became law in anything like its present shape, it would secure the immense incidental advantage of a registration of all landed rights in Bengal. The work would indeed be immense, for there would be perhaps as many as five million heads of families holding rights in land, but a registration of this kind must have come some day. And it had never been the practice of servants of the British Crown in India or elsewhere to shrink from a necessary duty merely because such duty was heavy. It would require a long pull, and a strong pull,

and a pull all together on the part of the collectors, the sub-divisional officers, and the loyal zamindars, to get the valuation of profits in hand once completed. When this valuation should have been once done, we might hope to see any harsh and punitive clauses, which at the outset might be left in the Bill, expunged entirely from the statute-book.

Mr. Bayley said, he had hoped that he should not have had to trouble the Council with any remarks on the Bill before them, but he could not pass by in silence the reasons which were put forward by the hon'ble gentleman who moved the rejection of the measure.

He opposed the Bill, first, because he said that roads and communications were not required in Bengal; secondly, that roads produced epidemics; and thirdly, that in these days of steam and electricity, if we once began taxing for such things as roads, there was no knowing where our requirements would stop.

He (Mr. Bayley) must confess he was amazed to hear this statement put forward by his friend opposite. It was not so many years since the Orissa famine which was caused not by the absence of food within reach of Government, but by the absolute impossibility of conveying it to the starving population. He himself had been in the Patna district in 1869, the people near Behar almost starving, with rice scarcely attainable at five or six seers for a rupee, when twenty-five miles off on the line of railway it was selling at fifteen or sixteen seers, and the reason was the same—want of communication. The hon'ble gentleman's experience of the dearth in the Midnapore and 24 Pergunnahs district after the cyclone of 1864, must have taught him the same fact. With all these facts staring him in the face; knowing that one-half of the important roads begun in Bengal had been left unfinished for want of funds; knowing that the main trunk road to Assam could not be finished without an expenditure of lac of rupees; that the military road along the banks of the Soane remained unbridged and incomplete—a splendid monument of wasted treasure; knowing that along the railway the cry was for feeders; that in Eastern Bengal, while the river on which Dacca stood was silting up—while from the difficulty of navigation caused by the same tendency, the rice boats in the Megna could make use of the channel with great difficulty and under serious obstacles,—knowing that for these reasons the native papers re-echo the daily complaints which were made to Government to assist in opening out the khalls and the natural water communication of Eastern Bengal, he must again say he was astounded at the assertion that Bengal was not in want of roads and communications. Why, in every village in this most productive country, the one thing deficient was not produce, but the means of getting that produce to market.

Not less was he astonished to hear the hon'ble member tell us that epidemics were caused by roads rather than by dirt, and to hear him object to the days of steamers and electricity. Would he wish us to go back to the days when a pleasant voyage of three months brought us to Benares, and when this "very petition to parliament, for the result of which the Council had been told they should have deferred the present Bill, could not have been heard of under six months. It was true that we could not fix distinctly the limits of our requirements. It was the nature, the misfortune if you will, of progress that it must proceed; but unless the hon'ble gentlemen could persuade us to put the clock back, get rid of steam, and abolish electricity, he would not persuade us that we could do without our roads, or that this Government would be doing its duty to its subjects, relatively to other Governments, if it did not make some provision for a very much more extended supply of roads than was possible with our present resources. He need not go into the question of the bearing which the permanent settlement had on the principle of this Bill. He had been more than anticipated in this by his hon'ble friend Mr. Thompson, but he would add his warning to that given by the hon'ble gentleman who had just sat down against the endeavour to make the permanent settlement a stalking horse for the resistance of all progressive measures, such as this Bill. It might be a sharp weapon, but it was a two-edged one, and was as likely to injure its friends as its enemies.

The one principle in the Bill which was most obviously open to objection was that which made the estates of zamindars liable for the arrears of the cess by sale as for arrears of revenue. The zamindars might fairly urge that this was no part of their contract; that they never agreed to collect extra cesses from their ryots for the benefit of Government, and that the hypothecation of their estates by the summary process of sale for the arrears of this cess unjustly depreciated the value of their property. He could not altogether deny this, and he was glad when the hon'ble mover said the Government would gladly receive any suggestion which would render it possible to do without this summary proceeding. At the same time he must say he looked upon this method as the only one which could render the Bill a success, and both on grounds of necessity and of expediency he considered the method defensible. It must be remembered that the unit of assessment was the estate. Our settlement was made, not with the ryots, but with the landholders; we always knew where to find an estate, even when we could not find the individual responsible for arrears,—a state of things which was not uncommon when the shareholders of an estate were numbered by hundreds, not one of whom might be entered on the mutation register. Accordingly we levied the cess as a matter of fact on the estate, leaving the landlord to recoup himself by collection from the ryots within the limits which the Bill laid down for the protection of the latter. Then, too, he must say he thought the very severity of the measure was its own remedy. It would never have to be resorted to. He appealed to the Council whether sales for arrears of revenue, which was the only analogous measure, did in

these days really press with severity on the landholders. Was it not the case that an estate was rarely brought to sale except when the proprietors, or some of them, desired for their own purposes that it should be brought to sale? He had been struck in going through the sums fetched by estates at these sales to notice how, except in diluviated estates, and such like, bought in by Government, the high prices of the estates sold had conclusively shown that it was not the severity of the sale law that brought them to the hammer. He was satisfied therefore that, while the sale for arrears hung *in terrorem* to make the zamindars conduct the duties imposed by this Bill punctually and quickly, it would not in practice work severely. At the same time, as he said before, he could not get over the fact that the liability must tend to depreciate existing property, and he for one would gladly vote for any amendment which offered a reasonable hope of being able equally certainly to carry out the objects of the Bill.

THE ADVOCATE-GENERAL said, the course that the debate had taken had perhaps rendered it unnecessary that he should say anything on the subjects discussed this morning. He should have abstained from saying anything at all but for the remarks that had fallen from the hon'ble member on his right (Rajah Joreendro Mohun Tagore), to the effect that Sir Barnes Peacock's opinion was in favor of the proposition, that the imposition of a land cess was an infringement of the conditions of the permanent settlement. As had been said by the hon'ble member to whom he had referred, the subject had been worn threadbare by the repeated discussions that it had undergone in all shapes and forms during the last few years. He (the ADVOCATE-GENERAL) thought that the matter had for all time been definitely set at rest by the exhaustive speech of the hon'ble the legal member of the imperial Council made the other day. But with reference to what had fallen from the hon'ble Rajah, as to the opinion of Sir Barnes Peacock, that he was of opinion that there was some infringement of the permanent settlement in the imposition of an income tax, he (the ADVOCATE-GENERAL) thought it desirable that that erroneous impression should be removed by a reference to what Sir Barnes Peacock actually said in respect to that subject. Now, referring to the debates of the legislative council which took place in 1860, on the subject of the income tax, it would be found in the proceedings of the Council, on the 21st July of that year, that Sir Barnes Peacock, then vice-president of the Council, on the exact question suggested now by the hon'ble member, expressed himself directly in the negative in regard to the proposition. Expressing himself on the subject, he observed on that occasion:—

"Having written a minute some years ago, and it having been intimated to him on a former occasion that his opinion now was different from that expressed in the minute in question, he would take this opportunity of saying that, having referred to the minute, and bestowed upon it careful consideration, he had come to the conclusion that his opinions on both occasions were entirely consistent with each other. As he said before, every minute had reference to the particular subject under discussion at the time it was written. That minute was written on the subject of taxing zamindars for the purpose of maintaining chowkeydars. The latter was an exceptional measure, while the income tax was a general tax affecting the whole country. The question, then, was as to taxing the zamindars alone, and he certainly thought that in so doing the Government would be violating the promise they had made at the time of the permanent settlement. The following was what he said:—

"It is clear that according to the engagement entered into at the time of the permanent settlement, the jummus then fixed cannot be altered. It was declared by the Governor General in Council that the zamindars and other proprietors of land, and their heirs, would be allowed to hold their estates at such assessment for ever (see Regulation I. of 1793, section IV), and that the orders fixing the amount were to be considered irrevocable and not liable to alteration by any persons whom the Court of Directors might appoint to the administration of the affairs of the Company (section VII). At the conclusion of the permanent settlement, the Governor General in Council expressed his confidence that the proprietors of land, sensible of the benefits conferred upon them by the public assessment being fixed for ever, would exert themselves in the cultivation of their lands, under the certainty that they would enjoy exclusively the fruits of their own good management and industry, and that no demand would ever be made upon them for an augmentation of the assessment in consequence of the improvement of their estates (Regulation I. of 1793, section VII.) The same principle which prevents an augmentation of the assessment, equally precludes the taxation of the owners in respect of the rent or produce of their estates."

"That was with reference to a Bill to tax them and them alone, and not with reference to a Bill for taxing the whole community. He could not add anything to the clear and lucid statement of the right hon'ble gentleman. He (the vice-president) would only say that he retained the same opinion now which he expressed on that occasion, namely, that the Government had bound themselves not to raise the jummus of the proprietors of permanently settled estates, as a separate and independent body; but he must add that having looked into the case carefully, he thought that landholders, under the permanent settlement, were justly liable to the income tax."

He (the Advocate-General) thought that they set at rest the question of Sir Barnes Peacock's opinion on the subject of the income tax being an infringement of the permanent settlement; and as the authority of his great name had been used in reference to this controversy, he thought it right that all misapprehensions on the subject should be removed.

He had only one other observation to make, and that was with reference to one of the objections of the other hon'ble member on his right (Baboo Digamber Mitter). It was an objection that he (the ADVOCATE-GENERAL) thought should in some way be met. The course that the debate had taken was that it must be accepted as a principle upon which this Council should now act, that the question of the infringement of the permanent settlement in the imposition of this cess for roads was no longer open on the despatch of the Secretary of State; and in reference to that, the hon'ble member had said that he considered that the Bill did not carry out the instructions of the Secretary of State in their entirety, because the Secretary of State

said that if a rate were levied at all, it ought to be levied equally, and without distinction or exemption, upon all property accessible to the rate. That had been laid down as the course of legislation that ought to be followed, whereas it had been determined in the present measure to tax only immovable property, and to leave all movable property exempt. It would be seen from the despatch of the Secretary of State that he, as would be natural, left considerable discretion to the Council to fix upon the best method of taxation, and the class of persons to be taxed, laying down only this general principle, that there should be no tax particularly leviable on the zamindar alone.

Then came the question whether the imposition of this rate on the agricultural interests was an infringement of these instructions. He contended that it was nothing of the kind. It was admitted that there must be some discretion in regard to the selection of property accessible to taxation, and it was admitted, further, that it was inconvenient to put a tax upon movable property from the difficulty of getting access to it: the only obvious mode of getting access to movable property being by direct taxation, in the form of either an income or a license tax. As he understood the hon'ble member, he considered this mode of taxation peculiarly unsuited to India, and if so, that seemed to remove the objection to this Bill, on the ground that it did not impose a tax on movable property.

But there was a further reason for taxing immovable property in regard to the subject-matter of this Bill, namely, for roads and communications; that the districts in which these roads were constructed were permanently and primarily benefitted by their construction, and therefore ought primarily to pay for the construction of those roads. This was the solid ground upon which it was clear that the land, for the benefit of which roads were constructed, should pay for their construction. Therefore, having regard to the discretion which was given by the despatch of the Secretary of State, and having regard to the difficulty of taxing movable property, except by direct taxation in the form of an income or license tax, which was considered obnoxious by the hon'ble the native members of the Council, it was thought right and just, not only as a matter of expediency, but as a matter of justice, that the landed interests, and all classes of that interest, should pay for the construction of these roads.

His Honor the President said, that although we had not here what could be called representative institutions, he was sure that no one could have listened to this debate without feeling very much that in respect of a great measure like this it was eminently advantageous that it should be discussed openly and in the light of day by gentlemen, official and non-official, who, if not elected, were at least selected for their fitness to deal with such subjects. He hoped he might consider himself excused from going into the question which had been so much discussed, whether a measure of this kind affected the principles of the permanent settlement. He would also avoid the constitutional question whether, in the exercise of its functions, this Council was absolutely bound by the orders of the Secretary of State. No doubt to some extent India must be despotically governed by England, and it must be that when the Government of England, the representatives of the English parliament and of Her Majesty, had resolved upon any policy which affected this country, why then, in some shape or another it was necessary that that policy should be accepted here. But whether the constitution of this Council was such as to oblige us to accept blindly an order of the Secretary of State, was one of those questions which had not yet been discussed, and in respect to which, the tone of this debate enabled him to avoid any discussion, for he thought that hon'ble members, official and non-official, had loyally accepted the position that the views on this subject which had been enunciated by the Secretary of State were fair and just, and such as we might properly attempt to carry out. No doubt this assembly was not a representative assembly as an English assembly was. No doubt it was true that in many matters, as the hon'ble member on the right (Rajah Jeteendro Mohun Tagore) had said, in respect of freedom of action, this country was treated differently from England, and also in respect to taxation. But he might venture to say that in respect to taxation and in respect to freedom of action, His Honor's hope and belief was that this Bill made a first attempt to assimilate the condition of things in the two countries—the condition of things in India with the condition of things that obtained in England; that was to say, whereas in England the people had not been accustomed altogether to depend upon the central Government—whereas they had not been accustomed only to cry to heaven for help, but they had been accustomed to help themselves by means of local taxation and local administration—an opportunity was given to the people of this country to help themselves as the people in England had been accustomed to do. The object and intention of this Bill was to make a beginning of self-government by introducing a mode of local self-taxation, and leaving the administration of the funds received from local taxation to the people of the locality for whose benefit and improvement the taxes are imposed. He had said that he did not desire to enter into the theoretical question in respect of the permanent settlement; but this he must say, that, as a question of practical possibility, it was essentially necessary that local taxation of the kind, to which this Bill contemplated, should be introduced into this country. It was totally and absolutely impossible that a great central Government like the Government of India could do every thing; that a great central Government should not only do things which were essential to a central Government, but also do those things which in every civilized country in the world, and he might almost say in every uncivilized country, also pertained to localities. It was

impossible that a central Government could attempt to do those things for every part of the country: it was quite clear that the possibilities of such a Government were limited; and if we had not a measure of the kind that had now been laid before this Council, many of the functions of Government would not be performed at all. The object, the principle, the very essence of this Bill, was simply this, that we sought to obtain from the people of Bengal permission to enable us to tax them for their own benefit; not for the general purposes of Government, but for the local benefit of a particular locality; and we wish to make the form and mode of taxation as local as we can. Even if the Government were willing to undertake functions of this kind, it was utterly impossible that they could do so with efficiency. It was in the nature of the work of a great Government that the further those works were from the central power, the weaker became the control of the Government, and the consequence was, that if attempts were made to carry out works by the money of the central power, the money was very apt to be wasted. The people in the locality had no interest in the money, and there were therefore no incentives to economy. What the experience of the world showed was this, that if small matters are to be economically administered, they must be administered by local means, persons responsible for, and interested in them. Therefore we had, after most mature consideration, thought that we were justified in introducing a Bill for the purpose of local taxation for local purposes.

He might observe, that if he had supposed that the appeal that had been made by the hon'ble member on the right (Rajah Joteendro Mohun Tagore), that we should delay action in this matter until the decision of parliament should be obtained upon the petition—which the hon'ble gentleman had given us to understand had been presented to parliament; if there had been any reasonable ground for assuming that there was a probability that parliament in its wisdom might upset the policy and intentions of the Government—he should be ready to yield to the appeal of the hon'ble gentleman. But His Honor must say, that it seemed to him that this question had been practically determined by a recent debate in parliament; and he must tell the hon'ble gentleman that he was most entirely and thoroughly convinced that the appeal of those who appealed in this matter was an utterly hopeless appeal. His Honor must tell him, that he believed that this claim to be exempted from local taxation was one which had not met, and was not likely to meet, with the slightest sympathy from the landed and other classes in England, because landholders in England were too much accustomed to have local taxation imposed upon them to suppose that any class of landholders in any part of the world should maintain successfully so extraordinary a claim as was put forward on the part of the zemindars of Bengal. In order to convince them that their appeal was hopeless, he might say this, that whereas the question had been decided by Her Majesty's Government now in power, in the debate on the subject which took place two or three months ago in parliament, an exactly similar expression of opinion was put forth by the leading men of the opposite party who, as the hon'ble member was aware, divided the British parliament. Probably His Honor might not only convince the Council of this fact; but he might also put before them some of the arguments upon which this Bill and the course of the Government was founded by reading a passage from a speech of a gentleman who, in this matter, took a leading part as a representative of the conservative party; he meant Mr. Cave. On the subject of local taxation in India, Mr. Cave said:—

'With regard to land, he should doubtless be met by the 'fixed settlement' [that was the permanent settlement]. Well he was speaking of what, speaking with great humility, appeared to him to be the most unwise of all arrangements by which the Government, unlike other landlords, precluded itself for long terms of years, and in some cases for ever, from sharing in the rapidly-improving value of land. Where faith was pledged it must be kept, even to our own hindrance; but there was no reason why the landlord should afterwards lay out large sums in raising artificially the value of the same land, without demanding from the tenant a percentage of the cost which, in this country, was freely given in such cases every day. Again, we had in this country a land tax redeemed in most cases at a fixed rate [that was the land tax Mr. Cave put, as corresponding to the land revenue in this country], but this did not prevent rates being laid over and over again upon land for local or what were called local purposes. Education was defrayed in great measure by local rates here in India, it was charged on the imperial revenue. And surely we might fairly ask for local aid to railways and irrigation works which so enormously increased the value of land and its products, that exports had multiplied nearly fivefold, and corn had risen in price at Jubbulpore from 12 shillings to 36 shillings a quarter. And all this through the state sinking 200 millions in improvements, expenditure on which in the last complete accounts made, according to the resolution of the Under-Secretary, the difference between surplus and deficiency, and yet taking the same rent as before, and in some instances even alienating land in perpetuity for a mere nominal price. Might not this system of local rates lead to the local and decentralizing management of affairs which was considered so desirable by those who looked forward to the native population assisting us to govern the country and becoming less apt than they were at present to call upon Government to initiate social reforms? At least we might begin locally, and try them with five cities before entrusting them with the empire.'

Now, that last passage of Mr. Cave's speech was the bright side of this tax Bill, which he would venture to bring to the notice of those hon'ble members who had so much doubt of the expediency of the measure.

He might also clear the ground by stating that it seemed to him that local taxation must necessarily be in its nature local, and that it must be a tax upon the property fixed in a locality. He was very far from subscribing to the opinion that the hon'ble member in charge of the Bill in his individual capacity entertained, that an increase of the salt tax might be held as a reserve for provincial taxation; but at the same time he wished to impress upon the Council his belief, that any tax of such a nature—any general tax—was not one which

we could impose for local purposes; because if you impose any general tax of this kind, it becomes in its very nature a provincial tax, which must be collected provincially, and which must be distributed provincially; and in that case it would be open to all the evils which he had brought to the notice of the Council as attending the attempt to administer central funds locally. We should be obliged to assign funds for particular districts which had no immediate interest in the raising of the tax, and the principal object of our local taxation would be missed. The nature of a local tax then, must be that it must be for a local purpose, and fall upon local property, that is, upon property which was in its nature local.

The matter was, no doubt, different as regards towns. We propose to exclude towns from the operation of this cess, not because they were not fit subjects of taxation, but because we consider that under the existing Municipal Acts these towns were sufficiently assessed for this very purpose of making and improving roads among the other purposes for which municipal taxes were imposed. We were in this respect following the precedent of many other countries. The rule in England is, that you have one tax which is rural and another tax which is urban. Towns are made responsible for the maintenance of roads and other improvement in towns, and the country is made responsible for the maintenance of roads and improvements in the country. Now, take the case of Calcutta. It seemed to him that the people of Calcutta are very heavily taxed—so heavily, that at this moment we are giving from imperial funds very large sums for the maintenance of the roads in Calcutta. We are giving those sums from the imperial funds because we have heretofore believed that the local taxation of Calcutta is so heavy that we could hardly ask the inhabitants of the town to take upon themselves greater burdens. He need hardly say that the people of Calcutta would feel, and be thought justly, that if they were not only forced to maintain all their own roads, but were also taxed in order to maintain the roads of the country, that course would be unjust. As the people of the country had the privilege of using the roads of the town without paying for them, so the people of the town should be at liberty to use the roads of the country free of payment. His own impression was, that as a matter of fact, the people of the country made use of the town roads more than perhaps the people of the town made use of the roads of the country.

He might also say, though the question was not now before the Council, that in his view education stood on a totally different footing. He said this in order to clear the ground, and to remove any suspicion of the acts of the Government in this respect. The hon'ble member on the right (Mr. Thompson) had in this matter, with great ability and force, defended the action of the Government of Bengal, and in doing so he acted loyally and rightly. His Honor might say that in knocking over the suggestions on this point, which had at one time emanated from the Government of India, the hon'ble member had slain the slain. We should all feel it rather hard that all our failures should be brought up against us for ever after. Undoubtedly certain expressions were used by the Government of India from which that Government had discreetly and properly receded. The result was, that the question of education was at this moment entirely an open one. His own opinion was that education did undoubtedly stand on a totally different footing from roads. The benefits of education were of a different description, and to some extent they were more or less obtained by different classes of the people. Speaking for himself, at this moment he might say that his impression was that perhaps the greatest need of education was in our towns, and in any revision of our Municipal Acts and reconsideration of the mode of levying and expending municipal taxes, it might be possible to enable towns acting under a system of self-government to make adequate provision for education. What provision might be made for education in the country he could not at present say. But he would at any rate pledge himself to this, that we in no degree consider that the Government were undertaking, or that the members of this Council would be in any way pledging themselves to impose a cess for the purpose of education on the same basis as that now proposed for roads, supposing that the cess on account of roads should be passed by this Council.

He need hardly enlarge on the enormous importance of roads and waterways, which are the subjects of this Bill. He thought that that had been very sufficiently set before the Council by the hon'ble members on the left (Messrs. Bernard and Bayley). He might say, however, that under the Bill the meaning of the term "roads" included rivers and waterways. It might be true that in some parts of the country roads, properly so termed, were not very much wanted. But he thought it had been shown to the Council that where roads are not wanted, rivers, canals, and khals, are very much wanted. The experience he had already had in the place he had the honor to hold, had sufficiently convinced him of this fact. He had received several petitions, one of which he had the honor to lay before the Council not long ago, from the inhabitants of several localities, earnestly praying that khals might be opened in their localities, and offering themselves to share in the expense of making the improvements recommended. Nothing was nearer the hearts of the people of Bengal than the improvement of khals and waterways. Well, that was included in the objects of this Bill, and we hoped that if the Council in their wisdom should be pleased to pass this Bill, in respect of the opening of khals and water-courses, it would be a boon to a large proportion of the population of Bengal, of which they would readily avail themselves.

They came the question, supposing it to be accepted by this Council that we are to impose a rate in the districts for the purpose of roads and communications, upon what property

is that rate to be imposed. The Government had accepted the principle contained in the despatch of the Secretary of State, which is, that the rate should not be confined to land, but should be extended to all property accessible to the rate. His Honor's view was that property accessible to the rate is property fixed in a particular district; that, if you are to have a rate for the purpose of improving material things in a particular district, the property which you must tax, or the property accessible to the rate, is the property fixed in that district; that is to say, immovable property. He was quite aware that there is a good deal of plausibility attached to the argument that all kinds of property should be assessed for a purpose of this kind. But he might tell the Council without fear of contradiction, that that matter had been discussed in many countries, and that overwhelming difficulty had been found in assessing personal property for local purposes, because personal property is in its nature movable: it might be moved from one district to another; and it is also property which in this country in particular it is very difficult to get at. He would not say that if, in the course of the discussions on this Bill, any hon'ble member should bring forward some measure by which it may be possible and feasible to bring within its scope any other property than that included in the Bill, we should not be prepared to listen to the suggestion. But at present he considered that, for purposes of this nature, the only property which might be considered accessible to the rate for the improvement of local communications is immovable property. The principle of our Bill is to tax all immovable property, and to make no exceptions whatever and our belief and our hope is, that in the course we have followed we have honestly carried out that principle which had been so well laid down by the Secretary of State. His Honor also thought that the argument which had been used by the learned Advocate-General was not without considerable weight; and that argument was this, that the property which would chiefly benefit by the improvement of roads and water communications is the land and other immovable property. No doubt the principal immovable property of the country is land; and inasmuch as the great mass of the immovable property is land, the principal portion of the tax would fall upon it. But he would confidently say that by far the greatest pecuniary benefit from the tax would be derived by the landholders and others interested in the land. He might also say, although he did not put it forward as a cardinal argument in respect of this Bill, that it was a matter for very particular consideration, that from the earliest times that we had a knowledge of, amongst the Aryan races both in Asia and in Europe, the duty of keeping up roads had been one which had specially appertained to the holders of land. He might use even philological arguments to maintain this position. We all know the saying that cleanliness is next to godliness; but he would venture to say that among our early ancestors, next to godliness came road-making. He thought he might shew that the early similes by which virtue was described were derived from the mending of roads and ways. He need scarcely tell the Council that to improve the morals and manners of a man was in English expressed by the phrase "mend your ways;" and such expressions abounded in all Aryan languages. He might remind the members that both in the English and the Indian languages, a virtuous and good man was styled a "siddha" man—a straightforward man; and a crooked man, who went by tortuous ways, was a man who was devoid of virtue. He might quote many expressions used in ancient books, which to some of us were very sacred, to show that the special duty imposed upon landholders was the making and improvement of roads. The scriptural expression was well known—"Prepare ye the way before him; make his paths straight." That was evidently the form of order addressed to the ancient Asiatic landholders when a great man was coming through the country; and he thought that many other expressions, to be found in the earliest records of our race, shewed that the duty of making and repairing roads was one which fell upon the landholders, and upon the settled inhabitants of the country. A man who had no regard for the comfort of his neighbours was one who forced them to go about by tortuous ways, round the corners of his fields; whereas a man who had a regard for his own comfort and that of his neighbours, was one who made roads straight and removed obstacles which fell in the way. Not only was it the practice amongst the ancient Asiatics for landholders to prepare roads and make paths straight, especially when their ruler came their way, but it also has been universally the practice in Europe, where landholders have been always liable for making and repairing roads. We had at this moment special rates upon land for the making of local roads in England, Scotland, and many other countries. In India, too, the practice had come down to this day. He might appeal with confidence to hon'ble members whether, up to very recent years, it had not been the constant practice of the magistrates to issue circulars perwannahs desiring the zemindars to repair the roads after the rains. He had expected to find this duty expressed in the engagements upon which the permanent settlement was founded. He had not found it expressed in a way upon which he could rely to enable us to enforce it as a legal obligation, but he had found what to his mind sufficiently accounted for the absence of a more express obligation. He found in all the old settlement records, both those which were issued by our Mahomedan predecessors and those used by the British Government in the early days, that there was a provision which might well be held to include this duty. He quoted from the papers regarding the permanent settlement a model form of engagement into which a zemindar entered at the time of that settlement. He found that at that time the zemindars engaged "to take special care of the highways and roads, so that travellers might pass and repass with perfect confidence and safety. He

was quite willing to admit that perhaps the major part of that obligation applied to the protection of the roads from thieves and robbers. It appeared to him, however, that there was also an implication in this that the roads were to be made and kept in order by the zemindars, as far as they were made in those days. There was then no public works department; the roads were either mended by the zemindars or not mended at all. He thought it must be admitted, that if the zemindars were bound to take measures to enable travellers to pass over the roads in confidence and safety, they must have kept the roads in such a state that they could use them without breaking their necks or getting drowned; and therefore he would say that this accounted for the absence of a more special provision in the permanent settlement in regard to the maintenance of roads. It might reasonably be supposed that by including in this general engagement of a condition, that travellers should be able to pass and repass with confidence and safety, the obligation to keep those roads in some sort of repair was included.

Well then, supposing that we should accept the proposition that it was proper that this rate should be imposed upon land, and upon all other immovable property, a very important part of the Bill, and one which had our most anxious consideration, was this, on which of the persons interested in the immovable property should the rate be imposed, and in what proportions? He concurred most fully with almost every word which fell from the hon'ble member who introduced this Bill, but he must venture to differ from the hon'ble member in one particular, which was perhaps not very important. We had happily arrived at the same conclusion, but perhaps by somewhat different roads. As he understood the hon'ble member, he based his argument to some extent upon the position which was taken up in the report of the Cess Committee, that the ryots were roughly estimated to obtain profits from the land equal to about the amount of the rent which they paid. His Honor did not concur in that view. He must tell the Council that although we were immensely indebted to the Cess Committee for their report, which was most valuable; although ninety-nine hundredths of the conclusions to which the committee had arrived, we have accepted; still, speaking individually, he must say that he did not accept the position taken by the committee in this question of the taxation of ryots. He thought himself the more bound to explain that position because another hon'ble member thought, and had suggested, that we should not tax ryots whose annual rents were under fifty rupees; that is to say, the great mass of ryots. His Honor's view was, that we did not tax ryots at all in the capacity of profit-makers, but we taxed them simply as *occupiers* of the land. In all questions of local taxation the question arose, who was to pay the rate?—the owner or the occupier? In the European countries with which we were best acquainted, that difficulty had been solved by charging half the rate on the owner and half on the occupier. That was the practice which had long obtained in respect of almost all local rates in Scotland, and many in England, and was now made applicable to general local taxation of all kinds in England by the new Bill for local taxation, which had been introduced by Mr. Goschen. Therefore, in adopting this principle in our Bill, we had adopted the most approved experience of England, where they have had a very long experience of local taxation of all kinds. The Government had come to the conclusion that, notwithstanding what he might call the political economy view, that landholders and tenants should themselves adjust these matters, it was practically better for all parties that the law should step in and say to landholders and tenants, "We will adjust the matter for you. Some tenants may be perpetual tenants, some may be holders for a term of years, some may be tenants at will, but as both owner and occupier will benefit by the local improvements we propose to introduce, our proposition is that you should divide the burden equally between you." And therefore, as far as he was individually concerned, his view was that the ryot, paid not as a profit-maker, but simply as an occupier, in the same way as the occupier of a house under part IV of the Bill paid half the rate and threw half the burden on the owner. It was quite true that we could not obtain absolute equality or absolute perfection in this or in any other matter. He thought that even the rack-rented ryots benefited by the improvement of roads and communications, and might fairly be called upon to pay half the rate. There was a certain logical inconsistency in this, that a ryot who paid a small rent was taxed in a small degree. He could only say that if that were so, so much the better for the favored ryot. His neighbour paid no more than his due, and he paid something less.

That was the only way we could get over it; for if we strove at perfection, we could never get our taxes at all. You could not value every ryot's holding,—at least not at present. If some get off too easily, that was no injustice to the man who paid a fair rate. You must consider, these ryots were the lowest in the scale of persons who were interested in the land, and you may reasonably suppose that the nearer you got to the actual cultivator, the nearer you got to the full rent rates.

He might also, with reference to the provisions on which several hon'ble members had commented,—provisions which seemed somewhat harsh, or, at all events, which put strong weapons in the hands of the collector for the realization of these rates,—say that he as much as any hon'ble member did feel that this was what he might call a blot in the Bill. He himself felt very confident that if we could get rid of this provision of the Bill, the principles of the Bill were unassailable. He hoped that no reasonable man in this Council, or out of the Council, would, in the calmness of thought, consider this Bill unreasonable, except in respect of the provision which enables the collector to realize arrears of rate by the mode prescribed for the realization of the land revenue. He therefore said that he took part with great reluctance in framing

a Bill containing such a provision. We were so far driven to that course that, after considerable discussion, we were unable to suggest any efficient substitute for that provision; and he would therefore say that his own earnest hope was that in committee some better means for the realization of the rate might be devised, and if that could be devised, he should be glad to accept it at once. But if such means could not now be devised, still hereafter, when we had a better registration of the landowners in Bengal, why then we should be ready at once to abandon this provision to which we had been driven by mere necessity.

He would also say, with respect to the half-anna rate, that that was the maximum, and not a universal rate. He had not attempted to make any calculation of the total amount that would be derived from the rate. Nor indeed was this necessary. It would be sufficient, when the time came, that the calculation of requirements should be made in each district. He had no doubt, however, that by fixing a maximum of the rate by legislation, we gave confidence to the people, for it was a guarantee to them that, though the local bodies might find it necessary to tax them to that extent, the rate could not be raised beyond it. It was with that view that a maximum rate had been fixed.

Then he came to a part of the Bill in respect to which he might say that his sympathies were completely and entirely with the hon'ble member on the right (Baboo Digumber Mitter), who addressed the meeting with considerable effect with regard to the extreme desirability of making the Bill in its administration as local as it was possible to make it. His Honor could only say that he entirely concurred with the hon'ble member in the belief that the object of making the benefits to be derived from the Bill as far as possible direct, immediate, and palpable, would be to a considerable degree lost if we were obliged to make the area of assessment and administration in all respects the same as a Bengal district. His hope was that we should succeed gradually in making the areas smaller and bringing the benefits which must result from this measure more immediately home to the very eyes of the people who paid the tax, and who were affected by it. His belief was that something more might be done in committee with the view of carrying out that object; and his hope would be that the committee might succeed in tempering down the tone of anything in which there might seem to be a despotic and a centralizing tendency. He hoped, further, that the hon'ble member might be induced to accept the principle of the Bill so far as to sit in committee and assist in manipulating its provisions; and he trusted that the hon'ble member, as well as other members of the Council, would go heart and hand into the object we had in view, namely, that of bringing this matter nearer to the homes of the people by making the area of rating as small as it was possible to make it, and making the benefits to be derived as direct and palpable as it was possible to make them.

He would not detain the Council by saying anything more as to the details of the Bill. He would only say generally, that if the Council would accept the main principles; first, that there must be a local rate for the purpose of local roads and local water communications; and secondly, that for the purposes of that rate immoveable property of all sorts and kinds should be taxed, then the Government would be ready and willing to meet them as far as they could in the details of the measure.

MR. SCHALCH said that after the very full manner in which the objections made to the principle of the Bill have been met by the several hon'ble members who had addressed the Council, it would be waste of time for him to say any thing more at present. In regard to the details of the Bill, objections had been raised by the hon'ble member opposite (Baboo Digumber Mitter), and the hon'ble member on the left (Moulvie Abdool Luteef); but as he hoped that those hon'ble members would give us the benefit of their assistance in committee, he need not detain the Council now by entering into those details.

The motion was then agreed to, and the Bill referred to a select committee (with instructions to report within a month), consisting of Mr. Bayley, Mr. Bernard, Moulvie Abdool Luteef, Mr. Wordie, Baboo Digumber Mitter, and the Mover.

The Council was adjourned *sine die*.

No. 24

of 1871



# SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JUNE 14, 1871.

## OFFICIAL PAPERS.

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### Report of the Calcutta Botanic Garden from 1st April 1870 to 31st March 1871.

From C. B. CLARKE, Esq., M.A., Officiating Superintendent of the Botanical Gardens, Calcutta, to the Officiating Secretary to the Government of Bengal, General Department,— (No. 373, dated Botanical Garden, Calcutta, the 25th April 1871.)

I beg leave to submit the report of the Calcutta Botanic Garden from 1st April 1870 to 31st March 1871.

2. The greater portion of the area of the garden is occupied by the trees and large shrubs placed out in natural orders. These are in general young plants. In pursuance of the plan commenced during the preceding year, some 10,000 quick-growing trees have been planted to serve as nurses among these natural orders.

3. The naming of the trees and shrubs by means of stamped metal labels has been commenced. A printed catalogue of the labels which had been placed out on 31st March 1871 is preparing. This will be a rough catalogue of the plants in the garden, and may serve as a seed catalogue to some extent. It is proposed to issue it annually, so that it will become a good catalogue of the trees and large shrubs; but it will not comprise the herbaceous plants or any of the plants grown in houses.

4. The collection of palms has been increased by presents from the Botanic Gardens at Buitenzorg and Kew. The collections of orchids and ferns have been considerably increased by Sikkim species sent down from the cinchona plantations.

5. A small forcing pit is in course of construction which will be of great use in inducing plants received from a distance to start.

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8. During the year under report the total number of kinds of seeds received was 2,252. The sum realized by the sale of seeds to the public was Rs. 214-12.

9. A general collection of the seeds of plants indigenous in Bengal was made in the autumn, and a set issued to each of the principal correspondents of the Calcutta Botanic Garden.

10. *Museum.*—Mr. Kurz, the curator of the museum, has been absent for upwards of four months in Burmah in the service of the imperial Government, and has not yet returned; I am consequently unable to present a complete report of the work done in the museum during the financial year under report.

11. The following additions to the herbarium have been received during the year:—  
 (a)—Australian plants (about 50 species) presented by Dr. F. Mueller of Melbourne.  
 (b)—A collection of plants (chiefly Greek) received from the Royal Academy of Munich through Mr. Kurz.  
 (c)—Two bundles of Siberian and Brazilian plants received from Dr. Regel of St. Petersburg.  
 (d)—Eight bundles of plants, chiefly Dr. Falconer's collections, from Kew; one bundle of Viti cryptogams collected by Dr. Seemann from Kew; and one bundle of ericæ from Kew.  
 (e)—A set of Ceylon filicales and lycopodales (about 175 species), carefully named by Mr. Thwaites.  
 (f)—A few fine specimens of Khasiyan ferns from Dr. Jerdon.

(g)—Centuriae IX and X of the plants of Sicily from Professor A. Todaro of Palermo.  
 12. The Calcutta herbarium collections of the orders apocynaceæ and gramineæ, which were forwarded some years ago to Kew for determination, were received back thence.

13. As explained in the last annual report, the most useful additions of Bengal plants to the herbarium are not now made by way of general collections, but by the intercalation of selected specimens. This work has proceeded steadily, and many orders have been largely strengthened out of collections made by the officers of the garden.

14. In the arrangement of the herbarium a large mass of the duplicate bundles have been worked through with care previous to their distribution. The natural orders, comelinaceæ, cypraudaceæ, urticaceæ, and portions of other orders, have been worked up so far as the Bengal species are concerned.

15. I have made a complete alphabetical catalogue of the library (omitting pamphlets) which involved the entry of 1,500 titles of books. The binding of the library has been proceeded with, but only slowly, and with the modern books. As regards very many of the ancient works, they possibly may have archæologic, but can hardly have any scientific, value; and it can scarcely be advisable to expend Government money on re-binding them.

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17. Nothing has been done in increasing the materials collected for the projected economic museum, as Government appears to have adjourned *sine die* the question of how and where such museum shall be erected.

18. The museum remains, from its extreme dampness, very liable to the attack of white-ants. I am glad to be able to report that owing to the great care taken by the curator during the rainy season, neither the herbarium nor the books have suffered during the past year. Indeed, making allowance for a tropical moist climate, both the arranged collections and the books may be reported as in very good condition. With the precautions now taken, I think the arranged collections (which are kept in the up-stairs rooms) may be considered safe but this cannot be honestly stated of anything kept on the ground floor.

19. *Cotton*.—The following is the report of the results of the experiments with exotic perennial cottons furnished by Mr. Scott, the curator of the garden, who has conducted these experiments:—

I.—*Upland Georgian*.—Four hundred plants planted in July 1870, yielded up to the end of February 1871, one maund and eighteen seers.

II.—*Egyptian cotton*.—From 260 plants planted in July 1870, the return at the end of February was seven seers and six chuttacks.

III.—*New Orleans*.—From 50 plants planted in July 1870, the return to the end of February 1871, was five seers and two chuttacks.

IV.—*Clark's hybrid cotton*.—From 30 plants planted in July 1870, the return to the end of February was one seer and fourteen chuttacks.

V.—*Egyptian cotton*.—Two and a half biggahs planted in May 1870, yielded up to the end of February 1871, ten chuttacks only.

VI.—*Egyptian cotton*.—Half a biggah planted in Botanic Garden in March 1870, yielded up to the end of February 1871, three and a half chuttacks only.

VII.—*Sea Island cotton*.—From 100 plants planted in July 1870, the return up to the end of February 1871 was two and a half chuttacks only.

20. It is plain that these results are discouraging, and very different from the expectations formed and the hopes held out last year. It must be understood that no difficulties were met with in growing fine plants of cotton. The point where the experiments failed was in the securing the crop. Just as the plants were coming into fine bearing, a rain would come, split all the ripening bolls, and throw the plants anew into vigorous vegetative growth. By the time these were again covered with young bolls, another fall of rain would occur. This is the more disheartening, because during last season the hot weather was more free from showers than is usually the case at Calcutta. The inference would appear to be that the climate of Calcutta is too moist for these perennial cottons, and that the only chance of securing a crop is with the more rapidly-maturing annual Indian varieties. Perhaps a climate and elevation somewhere about Chota Nagpore remain to be discovered, intermediate between the dry table land of Berar and the moist delta, which may prove a locality where these high class exotic cottons can be cultivated at an economic profit.

21. The experience of this year moreover has been very unfavorable to the beautiful hybrid seedling cottons of Major Trevor Clark. These hybrids do not appear to maintain their characters under cultivation. I suggested formerly that this might be due to their being cross-fertilized in our mixed-beds; but Mr. Scott is of opinion, from his observation of these hybrids, that with no degree of care in their culture can they be preserved as distinct varieties.

22. The experiments with cotton are, in this garden, on a small scale, and do not involve any extra charge on Government. Mr. Scott intends to try again, varying in some particulars his management of the plants. He thinks it possible that by cutting the plants to the ground he may throw his crop a little earlier, and thus secure it. Mr. Scott is now hopeful of a good return from those cut over in February; and more so from those so treated about the close of the rains. Experiments will in future be confined to varieties of cotton which (in the language of gardeners) come true. It is hoped to obtain a small plot of land very close to the garden boundary, and also to Mr. Scott's house, where these experiments can be carried on under close supervision.

23. *Ipecacuanha*.—The plants of ipecacuanha in this garden are in almost exactly the same condition that they were a year ago. It is, I think, certain that this drug cannot be grown at Calcutta.

24. On the 1st April 1870 there were, at the cinchona plantations, twelve plants of ipecacuanha. Of these seven cuttings were killed by a coolie falling on them and completely smashing them. Five plants remain planted out in cool frames: three at Rishap, (altitude 2,000 feet) measure  $4\frac{1}{2}$  inches,  $8\frac{1}{2}$  inches,  $1\frac{1}{2}$  inches respectively, and two at Rungbee (altitude 3,300 feet) measure  $6\frac{1}{2}$  inches and  $1\frac{1}{2}$  inches. The largest plant has nineteen leaves, and its largest leaf is  $6\frac{1}{2}$  inches by  $3\frac{1}{2}$  inches. It will easily hence be understood that while the vertical height of these ipecacuanha plants is so small, they are extremely healthy and vigorous looking plants, so much so that the head gardener thought there was a chance of obtaining seed, and it was in order to take this valuable chance that no cuttings have been taken.

25. On the whole, I think, our present experience justifies us in hoping that ipecacuanha will ultimately be produced successfully at the base of the Himalaya, but that it may be a work of much time.

26. I may call attention here to the fact that we have at present no fit place for growing ipecacuanha, or giving it (or any other economic plant as coco) a fair trial. The cinchona plantation is an extremely rocky valley; we may raise a few dozen ipecacuanha plants in frames or lines, but there is no flat land which can be used for cultivation on any scale. In the growth of cinchona there is no cultivation, i.e., the surface of the soil is never moved, as if this were attempted the little vegetable soil there is would wash away into the Teesta. It must be unnecessary to explain further that, for anything like culture, a different place is wanted. I have already (in reply to a letter of the supreme Government) recommended the Bhamun Pookree spur below Pankabari. This spur affords a comparatively level plot of 800 acres, at not more than 400 feet above sea level, at the foot of the Himalayas, facing south. The soil is good. The spur is the property of Government, and was long ago fixed upon by Dr. T. Anderson as excellently adapted for agricultural and horticultural experiments.

27. *Coco*.—The supreme Government has lately given instructions that some experiments in growing coco (*Theobroma cacao*) shall be made in Bengal. The plant can only be kept alive in Calcutta under shelter, but there is a fair expectation that it would succeed economically at a place like the Bhamun Pookree spur mentioned in last paragraph. It is difficult to get plants from Calcutta to the hill garden, unless they can endure the sun of the Bengal delta, the journey by Government bullock train being long, and the exposure great. Therefore, on the occasion of my last visit to the cinchona plantations, I had some coco plants packed, and took with me as personal luggage, hoping to reach the hills in two days. I regret to say that this case was lost by the Railway Company between Calcutta and Suhibunge. It may be some time before another opportunity of sending plants up rapidly may occur, and indeed there are not other plants ready for despatching. I fear this accident may greatly delay the carrying out the wishes of Government.

28. *Tobacco*.—The tobacco grown for seed last year proved the most successful of the economic cultivations attempted in the Botanic Garden; more than 10lbs. of seed of the finest kinds having been supplied to H. Rivett-Carnac, Esq. I do not see that there can be much difficulty in growing tobacco to any extent around Calcutta; but I am told that in a moist climate, no variety of tobacco will produce a leaf of high quality. At all events, the Botanic Garden, Calcutta, seems able to perform satisfactorily the functions of a seed garden.

29. *Rheea*.—In the cultivation of rheea, the Botanic Garden professes merely to keep a stock of young plants which are ready for supply to the public at a very low price.

30. His Excellency the Viceroy called my attention to the bun rheea of Bengal. Rheea is the cultivated variety of *Brahmeria nivea*, and therefore bun rheea should mean *Brahmeria nivea* itself. This plant is not, I believe, wild in any part of Bengal, unless in the extreme east of Chittagong. I supposed, from the Calcutta herbarium bundle of specimens, that it had also been found in the upper districts of Assam, but Mr. Mann, who has been assistant conservator of forests at Dehrooghur for some time, informs me that he is satisfied that this is a mistake, and that *Brahmeria nivea* does not grow wild in Assam.

In any case, I do not know that there is any reason to suppose that the wild Boehmeria nivea would be more easy of cultivation, or produce a more valuable crop than the ordinary rheea.

31. But in making inquiries about the wild Boehmeria nivea, I found that the hill people, both in North and East Bengal, give the name of bun rheea to a great variety of plants, all of which, however, are (so far as I can learn) species of nettles belonging to the sub-order Boehmeria. It appears to be a general character of this sub-order to produce fine fibre, and it is probable that rheea is by no means the most valuable fibrous plant of the sub-order, but that species superior to this exotic plant in fibre grow abundantly wild in Bengal.

32. It is, however, not excellence in fibre that is the most necessary condition that a fibrous plant has to satisfy in order to recommend it as likely to be economically valuable. The principal merit of jute, as a valuable fibre, is that it can be easily prepared. The nettle fibres generally will not endure lengthened maceration in water to get rid of the cellular tissue. These nettles vary exceedingly in the difficulty with which their fibre can be reduced to a state that will travel to Europe, and arrive in a condition satisfactory to the European manufacturer.

33. The European manufacturer appears to object to any process that involves treating the bark with either alkaloid or acid; he wants the fibre cleaned mechanically from cellular tissue, dried, and packed.

34. A still more important requisition that a fibrous plant has to satisfy, in order that it may prove economically valuable, is that it should prove adaptable to cultivation. Fibre must be procured by the ton to prove remunerative. A wild nettle may appear abundant in the Sikkim jungles, yet it is found practically a serious matter to get in 60lbs. of dry fibre. Any wild plant can only be economically valuable if it can be grown at small cost as a dense crop.

Unfortunately, many of the nettles, though troublesome weeds by the roadside and near human habitations, prove very hungry of manure when it is attempted to grow them as a permanent crop uniformly covering the ground.

35. The whole question of selection of nettles for experiment becomes thus complicated with many considerations. As a preliminary step I have revised the Bengal species, and I give the following abstract of results:—

I have sixty-nine Bengal nettles, all of which (except four good and a few doubtful species) are known to me wild. Of these six belong to the sub-order Urticaceæ, forty-one belong to the sub-order Procerideæ, and twenty-two belong to the sub-order Boehmeria.

The forty-one plants of the sub-order procerideæ are succulent low-growing weeds. The six urticaceæ, or true nettles which sting, produce coarse powerful fibre. The twenty-two Boehmeria (with the exception of five plants which, from their small size, are not likely to prove valuable) are all fibres of the rheea class of greater or less merit.

36. In accordance with instructions received through the Home Department, the head gardener at the cinchona plantation is now superintending the preparation of a set of samples of the fibres of the more promising plants; each sample to consist, if possible, of 60lbs., which are to be hand-prepared without the use of acid or alkali, or protracted maceration. The head gardener is instructed to prepare these samples one by one, beginning with the most promising species, and to furnish an estimate of the actual cost per pound of preparing each, and also the best opinion he can give (from observation of the wild plant) as to the probability of its successful cultivation. It is proposed that these samples be transmitted, carefully named, to England for report as to their respective market values as a preliminary step to any cultivating experiments. The preparation of these samples will occupy many months.

37. In order to provide that no further errors concerning the species meant shall arise, I have supplied the head gardener with a named dried specimen of each species worth a trial. This list comprises the following plants according to Weddell's last revision of the order in DeCandolle:—

1. Girardinia heterophylla	8. Pouzolzia viminea
2. Boehmeria malabarica	9. Sarcoclamys pulcherrima
3. B. comosa	10. Villebrunea appendiculata
4. B. macrophylla	11. V. frutescens
5. B. platyphylla	12. Debregesia longifolia
6. B. cuspilata	13. D. leucophylla
7. B. hamiltoniana	14. Macutia puya.

38. The above plants are all plentiful in the jungles of Lower Sikkim.

39. The plant which stands first for trial in the above list is Villebrunea appendiculata. The head gardener at Rungbue has already prepared small samples which have been highly approved, and so far as I at present know, this plant appears to combine in itself all the conditions for economic success.

The fibre is well known to the natives as the most powerful of all the indigenous fibres, and is used for bow strings. It is also the finest and whitest, in these respects surpassing rheea itself.

The fibre can be cleared of cellular tissue, and produced in a state fit for despatch to England more easily than any other that has been tried. The head gardener has devised a plan of working it, which costs at present Rs. 4 per maund, and which he believes capable of further reduction; and fibre thus prepared has been declared satisfactory in Calcutta.

*Villebrunnea appendiculata* is a small tree, and it is considered more promising for cultivation than any other of the species; it is thought probable that it might be grown as osier-willows are in England.

40. It cannot be guessed which is the second best fibre in the list, but *Maoutia puya* will stand high. This is the plant of which the native cloth of the Lepchas is made. It is a powerful fibre, and about twenty years ago Dr. Campbell, then the deputy commissioner of British Sikkim, sent samples down for report to Calcutta. The fibre was then pronounced marvellously strong, and among other uses, it was found excellent for boot-laces. It appears to have been passed by, because Dr. Campbell reported the manufacture of this fibre by the Lepcha plan enormously expensive, and because this Lepcha method produces the fibre of a slaty color.

The Lepcha method of manufacturing is performed by a limited class who keep their method a secret. There is no doubt, however, that the slaty color of the fibre is produced artificially, this customary tint possessing value in Lepcha eyes. The head gardener at Runghee will endeavour to reduce this fibre by the same plan which succeeds with *Villebrunnea appendiculata*. This will be much cheaper than the native plan, and will probably produce a fibre only slightly colored. But I should add that this puya fibre does not appear to work so easily as the *Villebrunnea appendiculata*.

At the time the puya fibre was sent down to Calcutta by Dr. Campbell, specimens of the plant were also sent down to Dr. Falconer, for botanical determination. Dr. Falconer, determined puya to be *Villebrunnea frutescens*, which is wrong; but it by no means follows that Dr. Falconer made any botanical mistake, for I think it quite as likely that the plant sent him as puya was *Villebrunnea frutescens*, as that it was any other of the dozen bim rheas of the natives.

41. *Villebrunnea frutescens* is also a very promising plant for experiment. It is a large shrub, very nearly allied to *Villebrunnea appendiculata*, and though there is no reason to suppose *a priori* that it surpasses the latter in any quality, nothing but experience can decide on their comparative merits.

42. *Debregeasia longifolia* is described as the plant whence many Assamcse tribes obtain their cloth, and is one of the numerous plants sent down as bim threa. This also appears an excellent fibre, but does not promise to be so productive under cultivation as *Villebrunnea appendiculata*.

43. *Debregeasia leucophylla* from the size it attains, is well worth attention. It is a comparatively local plant and rare, but may nevertheless prove manageable in cultivation.

44. *Boehmeria cuspidata* is another species which both by its size and abundance is worth particular trial. It is reckoned by Weddell as a mere variety of *Boehmeria platyphylla*, but in so far as Sikkim is concerned, the two plants are widely distinct.

45. *Girardinia heterophylla* is the only stinging nettle marked for trial. The stinging nettles, as above stated, produce in general a much more coarse fibre than the Boehmeria. The fibre of this species is used by the Mechis for bow strings.

Mr. Moor Martin of Darjeeling has worked up a considerable quantity of the fibre of this species for transmission to Europe. His sample is tolerably free from color, but it appears to my eye better fitted for rope-yarn than for the adulteration of silk; and I apprehend that only fibre adapted for the latter purpose is likely to command in the town of Dundee the high prices of £50 to 60 per ton, which we hear about as obtainable for a perfectly white fine fibre.

This fibre of *Girardinia heterophylla* prepared by Mr. Moore Martin, is exceedingly like a fibre prepared many years ago by Mr. McIvor in the Nilgherries from a *Girardinia*, which grows there.

I say a *Girardinia*, because as at many other points of these difficult nettles, there is an almost inextricable muddle in the nomenclature.

*Girardinia heterophylla*, as described by Weddell, is the Sikkim *Girardinia*. Weddell calls this plant *Girardinia heterophylla* of Roxburgh, which with Roxburgh's own figure before me I can say it is not. Roxburgh's *Girardinia heterophylla* is the plant described by Weddell under the name *Girardinia palmata*. Roxburgh got his *Girardinia* from the Peninsula, and appears to have got very few plants of any kind from the Himalayas. I have never seen *Girardinia palmata* of Weddell from the Himalayas, and am tolerably sure that it is not to be found there. On the other hand I saw only *Girardinia palmata* in the Peninsula, and doubt, from Mr. McIvor's report, whether any other species be obtainable there. The two species are closely allied.

46. The *Urticaceæ* besides producing generally coarser fibres than the Boehmeria, by reason of their acid juices, are troublesome to handle, especially in large quantities. There is one Sikkim species, the abominable *Laportea circulata*, which from its sub-arborescent habit and free growth, might deserve attention as a fibrous plant. And indeed the head gardener at Runghee managed to get off a good deal of the fibre of this species with his own hands, and finds it apparently a very capital and powerful fibre. But he suffered seriously

from the mere exudation of this virulent plant, and it would be hardly possible to induce any laborers to work with it. The well known account by Leschenault de la Tour of what it is to be stung by this plant, can be seen in the last edition of *Lindley's Vegetable Kingdom*, page 261. The head gardener at Rungbee protected himself from being directly stung while stripping the fibre, but was seized nevertheless with a violent swelling of the limbs and extremities which lasted twenty-four hours with great severity.

I think it would be better to exhaust the long list of Boehmeria before recourse is had to the Urticeae for fibres.

47. Of the other species given in the list above, plentiful in Sikkim, of shrubby size, and all doubtless possessing valuable fibres, it is unnecessary to say more than that they are all worth investigation. I may sum up the present report by repeating that as yet *Villebrunea appendiculata* appears to combine in a remarkable manner all the properties required in a bun rheea to lead us to expect it will prove economically valuable.

48. *Salt Water Lake Cultivation*.—The piece of land placed at Mr. Scott's disposal for growing dry crops upon at the Salt Water Lake proved very full of salt as before reported. In the rains this piece of land became permanently inundated to a depth of more than two feet which closed the experiment.

49. *Paddy*.—The curator of the Botanic Garden was instructed to experiment in the growth of Carolina paddy. His cultivation was not very successful, as he was prevented getting the paddy dibbled out early enough from the seed-beds. He came nevertheless to the conclusion that there can be no difficulty in cultivating Carolina paddy to any extent in Bengal. I have since learnt from Mr. W. Swinhoe that he grew Carolina paddy to a large extent in the Soonderbunds, and that the difficulty is not to grow it, but to find a market for the produce, because the Bengalis consider this rice is unwholesome and poor flavored.

50. I obtained from East Bengal a considerable quantity of seed rice of two kinds of rowa, which was partly distributed among native cultivators, partly grown by Mr. Scott with fair success. These two varieties of rice are very small grained, and very poor-looking to the European eye, but are considered of superior flavor by the Bengalis, and command an exaggerated price in the bazaars. They are not deep-water floating rice, but might be grown, I believe, to a considerable extent on the higher lands in this neighbourhood. I have given before at length my reasons for thinking that the main improvement to be introduced in rice cultivation is the wider introduction of the more highly esteemed varieties rather than any radical change in the methods of cultivation.

#### Accounts of the Calcutta Port Fund for the year 1870-71.

Dr.

Profit and Loss Account, 1870-71.

Cr.

	Rs. As. P.		Rs. As. P.
Mar. 31st To bills receivable ...	8 15 2	Mar. 31st By bills payable ...	12,865 1 6
" <i>Comet</i> F. & V. ...	2,924 6 0	" cash ...	0 2 0
" fire engine boat ...	329 0 0	" blowholes and passways ...	1,808 0 0
" harbour master's department ...	22,352 16 2	" dues account ...	432 8 1
" interest account ...	60,187 8 0	" general treasury ...	7,67,392 11 6
" loan account ...	2,12,057 0 0	" intubehaul ...	601 3 8
" office establishment ...	21,291 10 11	" <i>Marie</i> , assistant F. S. V. ...	647 14 0
" seventh crew ...	12 0 0	" moorings ...	2,73,592 0 0
" screw moorings ...	66,498 4 1	" <i>Magajore</i> magazine ...	130 2 0
" treasure boat ...	174 0 0	" tank boat ...	823 7 0
" <i>Hooghly</i> S. F. E. boat ...	1,844 1 6	" wreck and anchor Department ...	8,243 11 3
	1 3,82,169 19 6	" tank boat stock account ...	6,063 0 0
* Stock for net gain ...	6,59,545 4 6		
Rs. ...	10,71,715 1 0	Rs. ...	10,71,715 1 0

\* The gain in account due to remission of debt under the Financial Resolution No. 200 dated 30th April 1870.

Dr.

Stock Account, 1870-71.

Cr.

	Rs. As. P.		Rs. As. P.
1870.		1871.	
April 1st To balance from account closed 1871. 31st March 1870	4,91,437 19 4	Mar. 31st By profit and loss as above	6,80,545 4 6
Mar. 31st To balance transferred to commissioners ...	1,06,107 8 2		
Rs. ...	6,80,545 4 6	Rs. ...	6,80,545 4 6

H. Howa,  
Offg. Master Attendant.

Dr.	Balance Sheet, 1870-71.			Cr.
ASSETS.	Rs. A. P.		LIABILITIES.	Rs. A. P.
Mar. 31st To accountant-general	34,610 0 0		Mar. 31st By loan account	17,85,000 0 0
" cash	1,58,547 4 2		" stock	1,48,107 8 2
" examiner, dock-yard account	638 0 0			
" salvage suspense account	14,471 11 0			
" merrings stock account	14,98,060 0 0			
" fire engine boats stock account	77,000 0 0			
" bhowlauls and passways stock account	4,642 0 0			
" harbour master's boats stock account	1,29,001 0 0			
" Mayapore magazine stock account	72,440 0 0			
" tank boat stock account	6,487 0 0			
" wreck and sunken-boat stock account	48,611 0 0			
	12,85,000 0 0			
Rs. ....	19,63,107 8 2		Rs. ....	19,63,107 8 2

H. HOWE,  
Offy. Master Attendant.

**Accounts of the Balasore Port Fund for the year 1870-71.**

*Statement of Receipts and Disbursements of the Balasore Port Fund, from 1st April 1870 to 31st March 1871.*

NAME OF PORTS.	RECEIPTS.		DISBURSEMENTS.			REMARKS.
	Port dues.	Total receipts.	Contingencies.	Total disbursements.	Balance of Port Fund after deducting the charges.	
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Balasore	79	791 14 4	791 14 4	66 12 0	66 12 0	725 9 4 The balance of former years is Rs. 59,873 9 11.
Chanoor	0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0 It consists of port dues.
Sattra	1	2 10 0	2 10 0	0 0 0	0 0 0	2 10 0
Sooburnekha	11	26 14 0	26 14 0	0 0 0	0 0 0	26 14 0 salvage, sale proceeds of unclaimed wrecks.
Choraman	8	92 6 8	92 6 8	0 0 0	0 0 0	92 6 8 unclaimed wrecks.
Kuchimpore	13	215 2 2	215 2 2	0 0 0	0 0 0	215 2 2 port, and freight of H. M. Schooner Driess.
Dhamru	31	295 13 10	295 13 10	0 0 0	0 0 0	295 13 10
Total	143	1,423 13 0	1,423 13 0	66 12 0	66 12 0	1,357 1 0

BALASORE SEA CUSTOMS OFFICE,  
The 24th April 1871.

JOHN BRAMES,  
Collector of Sea Customs.

## Weekly Return of Traffic Receipts on Indian Railways.

## EAST INDIAN RAILWAY—MAIN LINE.

Approximate Return of Traffic for week ended 3rd June 1871, on 1,279½ miles open.

	COACHING TRAFFIC.			MERCHANTILE AND MINERAL TRAFFIC.			Total Traffic Receipts.
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			
Rs. As. P.			Mds. Brs.	Rs. As. P.			
£ s. d.			Rs. As. P.	£ s. d.			
Total traffic for the week ...	115,518	1,25,317 15 10	11,762 8 5	50,709 10	2,78,943 0 0	25,070 0 0	87,532 0 7
Or per mile of railway	100	10 4 8	10 3 11	219 0	219 0	19 5	20 3 7
For previous 21 weeks of half year	2,237,016	22,81,936 12 1	200,825 8 11	15,386,000 20	90,321,100 1 9	785,739 2 0	1,082,677 0 11
Total for 22 weeks ...	2,352,534	34,10,943 0 11	312,605 10 0	13,885,607 30	93,65,198 2 0	761,301 3 0	1,073,900 16 0
COMPARISON.							
Total for corresponding 6 days of previous year	77,704	97,142 12 0	8,901 16 1	67,048 10	4,31,001 1 3	39,500 0 0	48,608 10 0
Per mile of railway, corresponding 6 days of previous year	...	80 13 8	7 17 5	...	381 12 7	34 18 11	42 17 4
Total to corresponding date of previous year	2,433,118	39,90,591 1 0	366,610 17 2	10,485,424 20	91,97,708 0 10	943,223 7 2	1,209,734 4 4

## EAST INDIAN RAILWAY—JUBULPORE LINE.

Approximate Return of Traffic for week ended 3rd June 1871, on 223 miles open.

	Rs. As. P.			Mds. Brs.			Rs. As. P.	£ s. d.	
	Rs. As. P.	£ s. d.	Mds. Brs.	Rs. As. P.	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Total traffic for the week ...	4,497	11,713 10 11	1,028 11 9	60,001 10	39,744 0 0	1,001 14 0	2,975 0 1		
Or per mile of railway	100	6 4	4 16 3	133 0	133 0	0 11 7	13 6 10		
For previous 21 weeks of half year	97,634	32,95,494 2 8	29,919 0 5	1,250,306 20	3,80,324 13 8	83,620 18 3	62,940 0 0		
Total for 22 weeks ...	102,220	33,38,103 14 7	30,913 0 10	1,320,327 30	3,81,075 0 0	84,631 18 11	65,924 14 0		
COMPARISON.									
Total for corresponding 6 days of previous year	2,806	7,371 0 0	100 11 3	15,386 30	13,709 0 10	1,839 13 11	1,923 0 2		
Per mile of railway, corresponding 6 days of previous year	...	82 0 0	2 19 0	...	81 7 7	5 12 9	8 13 0		
Total to corresponding date of previous year	104,824	3,36,727 3 10	30,860 13 4	921,735 30	2,88,433 7 8	30,228 8 4	37,125 1 8		

## EASTERN BENGAL RAILWAY.

Approximate Return of Traffic for week ended 3rd June 1871, on 158½ miles open.

	Rs. As. P.			Mds. Brs.			Rs. As. P.	£ s. d.	
	Rs. As. P.	£ s. d.	Mds. Brs.	Rs. As. P.	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Total traffic for the week ...	36,473	21,030 10 0	1,053 12 8	122,003 2	20,020 0 4	2,600 2 4	4,048 10 0		
Or per mile of railway	100	135 4 4	12 18 0	881 0	183 0 11	16 19 11	20 19 3		
For previous 21 weeks of half year	670,620	3,94,000 14 0	92,217 0 1	2,000,024 20	5,98,522 4 7	68,510 10 0	84,786 18 7		
Total for 22 weeks ...	686,696	4,10,738 0 0	38,801 0 0	2,742,477 24	5,98,542 4 11	61,389 13 10	89,400 14 7		
COMPARISON.									
Total for corresponding week of previous year	24,264	14,020 5 0	1,043 10 0	102,341 18	20,163 5 4	1,848 5 10	8,133 1 3		
Per mile of railway, corresponding week of previous year	214	129 7 1	11 17 4	1,201 0	178 0 6	18 8 5	29 3 9		
Total to corresponding date of previous year	585,356	3,88,713 11 74	32,982 2 3	2,024,918 11	5,93,700 15 9	50,548 8 1	80,430 10 4		

## CALCUTTA AND SOUTH-EASTERN STATE RAILWAY.

Approximate Return of Traffic for week ended 3rd June 1871, on 28 miles open.

	Rs. As. P.			Mds. Brs.			Rs. As. P.	£ s. d.	
	Rs. As. P.	£ s. d.	Mds. Brs.	Rs. As. P.	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Total traffic for the week ...	5,478	1,545 11 9	126 11 0	10,114 0	804 7 0	80 10 11	161 8 5		
Or per mile of railway	100	41 7 10	4 9 0	381 0	18 3 0	1 2 4	5 21 4		
For previous 8 weeks of half year	64,159	11,400 10 0	1,140 11 8	100,918 10	9,001 11 3	900 8 4	1,440 14 7		
Total for 16 weeks ...	59,637	12,681 5 0	1,285 9 9	116,932 10	9,310 2 9	831 0 8	1,003 5 0		
COMPARISON.									
Total for corresponding week of previous year	5,182	912 10 3	101 3 3	10,592 12	877 8 0	87 15 1	149 0 4		
Per mile of railway corresponding week of previous year	183	32 9 0	8 0 3	557 0	20 10 0	2 1 3	0 0 0		
Total to corresponding date of previous year	40,184	6,978 5 0	807 10 7	106,140 12	8,000 11 0	806 10 4	1,394 15 11		

## Results of the Meteorological Observations taken at the Surveyor-General's Office, Calcutta, from 1st to 7th June 1871.

Month.	Date.	Mean reduced barometer, Inches.	THERMOMETER.						Mean degree of humidity.	WIND.			Mean's pressure.	Mean's velocity.	Rain.	Mean's pressure.	Mean's velocity.	Rain.	GENERAL REMARKS.
			Highest reading.	Lowest reading.	Max. solar radia-	Mean dry bulb.	Mean wet bulb.	Computed		mean	dew	prevailing direc-	Max. pressure.	Daily velocity.	Rain.				
June	1st	29.685	82.8	82.7	161.0	80.3	82.1	79.2	0.60	S and variable	17	132.5	0.51	...	...	...	...	Chiefly cumuli. Thunder at 5 P.M., rain at 8 $\frac{1}{2}$ P.M.	
	2nd	29.625	89.0	77.0	113.0	80.7	78.7	77.3	1.90	SS W and S	13	152.4	3.97	...	...	...	...	Stratocumulus and overcast. Thunder from 10 A.M. to 6 P.M. Lightning at 3 A.M., and from 12 A.M. to 2 P.M. Rain from 10 A.M. to 2 P.M.	
	3rd	29.679	87.0	77.0	139.4	81.2	78.0	77.3	1.88	SS E and S	20	101.4	0.68	0	...	...	...	Occasional stratus, and cumuli. Thunder from 1 to 3 and 7 to 8 A.M., and at 11 P.M. Lightning from 1 to 3 A.M., at 7 and from 9 to 11 P.M. Rain from 1 to 3 A.M.	
	4th	29.526	87.0	79.6	...	81.6	79.7	78.2	1.59	S and S by E.	...	88.0	12.57	...	...	...	...	Stratocumulus, cumuli, and overcast. Thunder at 6 and 7 A.M., and from 1 to 3 P.M. Lightning at midnight. Rain at 2, 6, 10 $\frac{1}{2}$ and 12 A.M., and from 1 to 2 P.M.	
	5th	29.651	87.5	80.0	146.0	83.1	80.3	79.0	1.01	S by E S and S S E	...	80.0	0.84	...	...	...	...	Cumulus, overcast, and stratus. Thunder at 1 P.M. Rain at 1 A.M. and 1 and 2 P.M.	
	6th	29.619	80.0	80.5	140.0	82.0	80.3	79.1	1.01	S S E and E	...	59.0	0.31	...	...	...	...	Cumulus, stratus, and overcast. Thunder at 1 and 2 P.M. Light rain from 11 $\frac{1}{2}$ A.M. to 3 P.M.	
	7th	29.620	89.4	80.0	138.0	82.8	80.3	78.5	1.07	E S E and N	...	61.8	0.35	...	...	...	...	Cloudy, stratus, and overcast. Thunder at 10 A.M., and from 8 to 10 P.M. Lightning from 8 to 10 P.M. Light rain at 11 A.M. and from 7 to 11 P.M.	

The mean barometer, as likewise the dry and wet bulb thermometer means, are derived from the twenty-four hourly observations made during the day.

The dew-point is computed with the Greenwich constants.—The figures in column 10 represent the humidity of the air, the complete saturation of which being taken at unity.—The receiver of the lower rain gauge is  $1\frac{1}{2}$  feet, and that of the anemometer 70 feet 10 inches, above the level of the ground.—The velocity of wind, as indicated by Robinson's anemometer, is registered from noon to noon.

The extreme variation of temperature during the past seven days	...	16.8
The max. temperature during the past seven days	...	93.8
The max. temperature during the corresponding period of the past year	...	97.5
The mean humidity during the past seven days	...	0.88
The mean humidity during the corresponding period of the past year	...	0.74
	Inches.	
The total fall of rain from 1st to 7th	...	8.93
{ by lower rain gauge	...	8.18
{ by anemometer gauge	...	2.27
Ditto, average of seventeen previous years	...	31.89
Ditto, between the 1st January and the 7th June	...	12.50
Ditto, ditto, ditto, average of seventeen previous years	...	

GOPEKNATH SEN,

In charge of the Observatory.

The 12th June 1871.

## Meteorological Telegraphic Report for the period 4th to 10th June 1871.

Station	Date.	Hour.	Barometer reduced to 89°.	Barometer reduced to sea-level.	THERMOMETER.		Humid- ity Rel. 2100	WIND.		Rain.	Clouds.	Weather Indic.	
					Dry.	Wet.		Direction.*	Velocity.				
Calcutta.	4th	10	29.569	29.540	81.0	80	8	..	0.04	K, N	..	..	
	16	29.571	29.497	70.5	79.0	93	S by E	..	2.53	..	..	..	
	5th	10	29.591	29.509	87.5	81.0	S	..	0.01	K	..	..	
	16	29.517	29.475	81.0	79.8	91	S S E	..	0.83	..	..	..	
	6th	10	29.583	29.611	80.0	81.0	E by N	..	..	K	..	..	
	16	29.493	29.508	82.0	81.0	91	E by S	..	0.11	..	..	..	
	7th	10	29.501	29.512	81.0	79.5	E	..	..	..	..	..	
	16	29.473	29.473	81.5	81.5	70	N N E	..	0.06	S	..	..	
	8th	10	29.550	29.571	82.4	79.2	S by W	..	0.41	..	..	..	
	16	29.454	29.472	87.5	82.0	78	N N W	..	..	K	..	..	
	9th	10	29.560	29.564	79.0	79.5	W by S	..	4.05	..	..	..	
	16	29.459	29.477	85.0	83.0	91	S W	..	..	S, K	..	..	
	10th	10	29.612	29.630	83.7	81.0	70	S W	..	..	S, K	..	..
	16	29.513	29.581	90.0	63.4	71	S S W	..	..	K, C	..	..	
Calcutta.	4th	10	29.574	29.574	80	82	83	S	0.04	CK	..	..	
	16	29.450	29.460	87	83	81	S E E	..	2.00	N	..	..	
	5th	10	29.579	29.575	87	83	S J	..	10.00	2.00	..	..	
	16	29.556	29.562	84	82	91	E N E	..	3.4	0.50	C, N	..	
	6th	10	29.562	29.568	84	83	S	..	21.00	0.20	N	..	
	16	29.530	29.546	87	83	82	N E	..	18.00	0.70	N	..	
	7th	10	29.572	29.572	89	84	83	W N W	..	10.0	N N	..	
	16	29.452	29.468	81	80	85	S S	..	5.00	0.90	..	..	
	8th	10	29.567	29.563	83	82	87	W	..	20.40	..	..	
	16	29.451	29.457	89	84	83	S S W	..	6.0	..	K, N	..	
	9th	10	29.552	29.552	88	83	91	S W	..	17.1	0.20	..	..
	16	29.470	29.470	87	85	91	S	..	1.0	N N	..	..	
	10th	10	29.619	29.625	90	86	81	S S W	..	1.0	N N	..	..
	16	29.536	29.562	86	63	87	S	..	12.0	..	..	..	
Calcutta.	4th	10	29.574	29.607	80	83	87	E S E	..	0.10	K	..	..
	16	29.479	29.507	86	82	83	N W	..	..	K, CS	..	..	
	5th	10	29.556	29.495	88	81	S E	..	..	K, C, N	..	..	
	16	29.558	29.561	81	83	87	W	..	..	K, S	..	..	
	6th	10	29.574	29.603	83	81	83	N	..	0.10	CK	..	..
	16	29.442	29.468	81	79	86	N N E	..	0.30	N	..	..	
	7th	10	29.575	29.575	78	77	95	N E	..	0.10	N N	..	..
	16	29.475	29.485	78	79	70	N E	..	1.0	0.30	N N	..	..
	8th	10	29.575	29.575	77	77	100	S E	..	1.00	N N	..	..
	16	29.467	29.479	77	77	100	S E	..	10.7	1.00	N N	..	..
	9th	10	29.545	29.566	77	76	86	S E	..	10.7	2.20	N S	..
	16	29.530	29.560	79	78	101	S E	..	7.7	2.50	N S	..	..
	10th	10	29.610	29.642	70	73	91	H	..	7.7	..	..	..
	16	29.532	29.713	80	79	87	S E	..	7.1	..	..	..	
	10th	10	29.511	29.624	87	81	87	S E	..	12.0	..	..	..
Manar.	3rd	10	29.044	29.714	85	75	72	W S W	..	..	..	..	..
	16	29.615	29.645	82	79	87	E by S	..	0.10	..	..	..	
	4th	10	29.730	29.700	75	73	93	N W by N	..	..	..	..	..
	16	29.650	29.610	81	78	72	S E	..	7.0	0.05	..	..	
	5th	10	29.024	29.651	91	78	73	S S W	..	..	..	..	..
	16	29.726	29.745	87	73	70	E S E	..	11.0	..	..	..	
	6th	10	29.707	29.707	92	70	61	S	..	..	..	..	..
	16	29.635	29.655	89	70	62	S by E	..	11.0	..	..	..	
	7th	10	29.590	29.710	80	70	52	E H E	..	21.0	0.00	..	..
	16	29.586	29.616	84	78	75	E S E	..	0.0	0.00	..	..	
	8th	10	29.707	29.737	92	76	45	S S W	..	10.0	..	..	..
	16	29.648	29.698	98	77	95	S W by S	..	1.0	..	..	..	
	9th	10	29.717	29.747	98	75	82	S S W	..	11.0	..	..	..
	16	29.676	29.676	87	70	58	E S E	..	12.0	..	..	..	
Arras.	3rd	10	29.577	29.650	85	81	80	S W	..	0.20	N, C	..	..
	16	29.414	29.404	89	83	87	S S W	..	..	C	..	..	
	4th	10	29.545	29.587	89	82	73	S S W	..	..	..	..	..
	16	29.570	29.640	90	82	68	S S W	..	..	KS, C	..	..	
	5th	10	29.520	29.602	85	78	71	S E	..	..	KS, C	..	Fair.
	16	29.487	29.518	81	80	62	E	..	..	N C	..	Fair.	
	6th	10	29.523	29.600	90	78	56	N E	..	..	N C	..	..
	16	29.413	29.495	81	82	66	W	..	..	..	..	..	
	7th	10	29.515	29.607	85	80	70	S S W	..	..	N	..	..
	16	29.517	29.607	91	81	88	S S E	..	..	N	..	..	
	8th	10	29.517	29.590	85	80	79	S W	..	..	KS, N	..	..
	16	29.517	29.617	98	81	87	W	..	..	KS, N, C	..	..	
	9th	10	29.512	29.603	91	83	86	S S W	..	..	CK, KS, C	..	..
	16	29.411	29.603	93	81	87	S W	..	..	C	..	..	
	10th	10	29.623	29.638	84	81	87	E S E	1	2.20	K	..	..
	16	29.538	29.553	80	82	88	S	..	..	O	..	..	
	11th	10	29.618	29.638	89	80	91	S W	..	0.00	N, K	..	..
	16	29.519	29.664	89	81	96	S	..	0.10	K, N	..	..	
	12th	10	29.610	29.625	81	70	91	S E	..	4.00	N, K, N	..	..
	16	29.521	29.638	81	27	91	S S W	..	0.30	N, N	..	..	
	13th	10	29.618	29.639	82	79	87	S S W	..	2.20	N, N	..	..
	16	29.520	29.674	78	77	95	S S W	..	1.20	N, N	..	..	
	14th	10	29.608	29.701	79	77	80	S	..	1.00	N	..	..
	16	29.617	29.642	79	78	95	S	..	0.70	N	..	..	
	15th	10	29.710	29.725	81	70	91	E S W	..	1.20	N	..	..
	16	29.610	29.601	80	80	87	S S W	..	0.70	N	..	..	
	17th	10	29.720	29.614	81	70	91	S S E	1	0.40	N	..	..
	18th	10	29.614	29.603	83	79	87	S S W	..	..	..	..	..

\* Velocity of wind in miles per hour.

CALCUTTA,  
The 10th June 1871.HENRY F. BLANFORD,  
Meteorological Reporter to the Government of Bengal.

Weekly Report of Rainfall compiled at the Meteorological Reporter's Office.

Divisions.	Stations.	Rainfall from 15th to 21st May 1871.		Rainfall from 22nd to 28th May 1871.		Rain from 1st JANUARY 1871.		REMARKS.
		Rainfall	Up to date	Rainfall	Up to date	Rain	Up to date	
CUTTACK.	Cuttack { Telegraph Office	1.70	0.00	14.48	4th June 1871.			
	Jail	0.92	1.11	12.02	ditto.			
	False Point	1.90	Not received	14.85	29th May 1871.			
	Jappore	0.05	2.10	10.30	4th June 1871.			
	Kendraparab	0.70	1.00	12.00	ditto.			
	Jhantongpore	1.20	0.00	11.05	ditto.			
	Sambalpore	Nil	0.05	3.23	ditto.			Not received 15th to 21st May.
	Indore	0.55	1.70	17.17	ditto.			
	Hindurak	0.92	1.74	11.04	ditto.			
	Pursoo	1.19	0.49	10.81	ditto.			Not received 10th to 18th April.
CROSS NAGAR.	Khoardah	0.67	Not received	11.20	29th May 1871.			
	Hazorebaugh	0.57	0.21	4.28	4th June 1871.			
	Burbar	0.14	1.16	5.03	ditto.			
	Pachimbar	1.05	2.88	9.21	ditto.			
	Brancheo	Not received	Not received	2.43	30th April 1871.			
	Piplanwar	Nil	0.71	2.14	4th June 1871.			
	Parula	0.01	1.84	9.13	ditto.			
	Chyebana	0.10	1.11	8.73	ditto.			
	Patna	0.05	Nil	6.10	ditto.			
	Bihar	2.03	Not received	6.02	28th May 1871.			
PAKNA.	Birb	0.16	0.25	3.67	4th June 1871.			
	Dinapore	1.43	1.92	4.08	ditto.			
	Gyn	Nil	0.20	4.01	ditto.			
	Cherghott	1.93	Nil	2.97	ditto.			
	Kowali	1.00	Not received	6.01	28th May 1871.	Not received 10th to 18th April.		
	Arungulah	0.15	Nil	3.60	4th June 1871.			
	Champaran	0.23	ditto	0.51	ditto.			
	Chuprah	0.30	0.00	4.70	ditto.			
	Sewan	0.32	Not received	7.70	29th May 1871.			
	Mangulpore	1.70	1.80	5.24	4th June 1871.			
BENGALURU.	Durhingah	Nil	Nil	1.38	ditto.			Not received 16th to 21st May.
	Seelamur	ditto	0.00	8.51	ditto.			
	Tamor	ditto	1.02	4.13	ditto.			Not recorded 6th to 19th Mar.
	Mudhambani	0.05	0.05	0.13	ditto.			From 1st April.
	Hajpore	0.50	Nil	0.50	ditto.			From 1st and May.
	Arrah	1.43	1.33	5.00	ditto.			
	Jhark	1.02	0.45	4.55	ditto.			
	Swaroram	0.26	Nil	2.04	ditto.			Not received 20th Feb. to 10th Apr.
	Bhadrinath	0.65	ditto	3.27	ditto.			
	Banaras	0.00	Not received	2.70	28th May 1871.			
BENGALESH.	Bhangaipore	Not received	ditto	1.97	23rd April 1871.			
	Mohury poorkh	0.00	0.10	0.20	4th June 1871.			
	Bunka	4.19	0.14	8.71	ditto.			
	Mangnayr	Not received	0.00	2.40	ditto.			Not received 22nd to 28th May.
	Jinniude	1.05	0.30	7.13	ditto.			
	Begunuri	1.35	0.29	8.11	ditto.			
	Bengalur	2.81	0.67	12.54	ditto.			
	Jundara	0.70	2.40	12.20	ditto.			From 13th Feb.
	Kapuchal	Not received	Not received	0.60	21st May 1871.	From 13th Feb., and not received		
	Puknor	2.05	Nil	2.25	4th June 1871.	25th March to 7th April.		From 21st May.
RUPNARAYAN.	Purneah	1.82	0.06	7.43	ditto.			
	Ramnare Beasleah	0.80	Not received	0.84	28th May 1871.			
	Nattore	1.10	2.22	12.00	4th June 1871.			
	Lingnath	6.98	0.00	13.63	ditto.			
	Dhainapore	1.81	0.40	19.10	ditto.			
	Yardah	0.24	1.19	8.35	ditto.			
	Borhampore	0.61	1.74	12.49	ditto.			
	Jangipore	2.63	1.82	11.04	ditto.			
	Lalbagh	0.79	2.02	8.13	ditto.			From 18th Jan.
	Jamun-kandi	1.74	1.85	9.15	ditto.			From 17th April.
BARDWAJ.	P'chun	6.28	2.98	16.30	ditto.			
	Commerately	Not received	Nil received	6.02	23rd April 1871.			
	Serampore	4.33	8.21	10.22	4th June 1871.			
	Rupnare	4.70	Nil	11.80	ditto.			
	Bhowanipore	1.95	ditto	18.90	ditto.			From 22nd Jan.
	Tinly	2.19	3.24	12.18	ditto.			
	Burdwan	1.84	0.37	11.81	ditto.			
	Orissa	0.67	3.29	14.42	ditto.			
	Cola	0.42	2.00	15.55	ditto.			
	Burd-Burd	0.49	0.74	19.44	ditto.			
BENGDHAR.	Himrooth	1.93	0.31	10.04	ditto.			
	Kureeghat	0.87	1.13	9.18	ditto.			
	Sarare	1.25	1.74	10.07	ditto.			
	Hinglaj	1.80	2.80	18.07	ditto.			
	Serampore	3.09	2.41	11.93	ditto.			From 21st Mar.
	Jednabad	1.10	1.73	10.73	ditto.			From 21st April.
	Towrah	6.59	4.57	27.11	ditto.			
	Madnupore	1.71	1.00	21.00	ditto.			
	Dy. Collector's Office	1.71	0.33	10.25	ditto.			
	Rug'r's Office	1.82	2.95	24.02	ditto.			
BENGDHAR.	Gurheta	1.23	0.81	10.57	ditto.			From 6th Feb.
	Tunduk	2.87	4.07	80.33	ditto.			
	Kulnughar	1.74	2.00	10.35	ditto.			
	Bonong	1.81	6.10	23.50	ditto.			
	Raneghat	1.18	1.13	13.65	ditto.			
	Meherpur	0.00	Not received	9.02	28th May 1871.	Not received 18th to 21st May.		
	Chandnugah	3.50	5.10	25.00	4th June 1871.			
KODILDEH.	Kodilteh	0.04	2.05	10.24	ditto.			
	Jessore	4.61	4.06	22.24	ditto.			

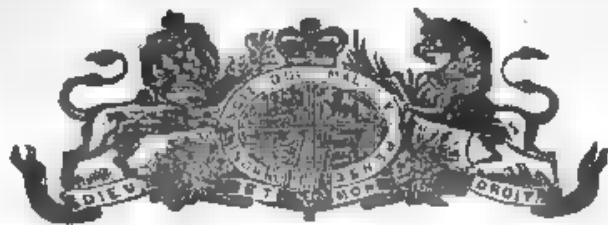
District.	Stations.	Rainfall from 1st to 31st May 1871.	Rainfall from 1st to 31st May 1871.	RAIN FROM 1st JANUARY 1871.		REMARKS.
				Rain.	Up to date.	
Presidency (Divided)	Khulnaib	0.31	0.60	16.61	4th June 1871	From 10th Feb.
	Jessulab	4.27	9.75	15.31	ditto	From 8th Mar.
	Baugar Island	3.70	9.90	24.70	ditto.	
	Calcutta	6.38	7.03	30.59	ditto.	
	Alipore { Jail	6.19	10.64	31.38	ditto.	
	{ Hospital	5.98	10.54	29.97	ditto.	
	Dacca	3.19	Not received	12.80	28th May 1871.	
	Dacca	4.71	ditto	26.20	ditto.	
	Bunsei	2.89	ditto	13.68	ditto.	
	Sukerchak	1.93	ditto	18.21	ditto.	
	Bassarhant	2.30	ditto	16.85	ditto.	
	Diamond Harbour	2.40	ditto	28.64	ditto.	
	Bartiopore	3.04	ditto	29.09	ditto.	
	Dacca { Telegraph Office	7.03	2.73	28.87	4th June 1871.	
	{ Jail	7.30	2.40	25.70	ditto.	
Dacca	Burmanul	4.01	3.61	29.09	ditto.	
	Dowlat Khan	4.18	1.50	14.37	ditto.	
	Perazpore	3.44	1.85	19.02	ditto.	
	Madinapore	3.68	0.6	22.03	ditto.	
	Faridpore	0.92	5.40	27.02	ditto.	
	Mymensingh	10.00	8.01	29.69	ditto.	
	Jamalpore	8.08	Not received	20.46	28th May 1871.	
	Atteak	3.00	5.03	24.82	4th June 1871.	
	Kishoreganje	7.42	5.38	32.25	ditto.	
	Sylhet	12.20	1.56	43.84	ditto.	
	Cecina	3.52	Not received	32.57	28th May 1871.	
	Hyderabad	4.00	ditto	36.07	ditto.	
	Koyah	6.34	ditto	39.00	ditto.	
Cuttack.	Chittagong { Telegraph Office	8.80	1.20	21.10	4th June 1871	
	{ Jail	7.23	1.50	18.00	ditto.	
	Cox' Bazar	0.02	Not received	26.02	28th May 1871.	
	Rangamatin Hill	13.10	ditto	23.14	ditto.	
	Neckanelli	7.07	1.55	21.11	4th June 1871.	
	Tipperah	11.76	0.87	27.03	ditto.	
	Benambariab	11.75	Not received	28.71	28th May 1871.	
	Akyab	7.70	0.90	20.30	4th June 1871.	
	Bura	3.48	2.77	35.53	ditto.	
	Gawalporeh	0.53	0.70	38.78	ditto.	
	Illokhore	0.85	1.00	21.61	ditto	
	Tum (Gore Hills)	5.37	Not received	22.06	25th Aug. 1871.	
	Darjeeling { Telegraph Office	Not received	ditto	7.16	30th April 1871.	
	{ Jail	2.60	2.44	17.30	4th June 1871.	
	Itanghat	Not received	Not received	12.24	3rd April 1871.	
Assam.	Fulacattah	0.74	3.22	11.16	4th June 1871.	
	Jalpaiguri	0.28	6.41	17.88	ditto.	
	Boda	1.27	0.27	11.03	ditto.	
	Terpore	1.51	Not received	25.73	28th May 1871.	
	Nowrang	2.60	0.60	21.03	4th June 1871.	
	Munialdey	1.63	Not received	23.44	29th May 1871	From 30th Jan.
	Burpethah	2.84	ditto	25.14	ditto.	
	Gorakhaty	3.06	Nil	17.98	4th June 1871.	
	Sambhungr	2.06	Not received	26.82	28th May 1871	
	Dorabhat	2.53	ditto	20.63	ditto.	
	Golaghat	3.03	ditto	25.70	ditto.	
	Namerab	2.04	ditto	20.56	ditto.	
	Debanghat	1.97	ditto	20.14	ditto.	
	Buddya	3.03	ditto	27.88	ditto.	
	Srimong	5.94	ditto	29.12	ditto.	
	Cherrapoonjee	10.29	1.61	61.08	4th June 1871	From 18th Feb.
	Jown	13.75	Not received	58.41	28th May 1871	
	Bansugongding	3.78	ditto	12.60	ditto.	

HENRY F. BLANFORD,  
Meteorological Reporter to the Govt. of Bengal.

CALCUTTA,  
The 10th June 1871.

No. 25

of 1871



SUPPLEMENT TO  
**The Calcutta Gazette.**

WEDNESDAY, JUNE 21, 1871.

**OFFICIAL PAPERS.**

*Non-Subscribers to the GAZETTE may receive the SUPPLEMENT, separately, on payment of six Rupees per annum if delivered in Calcutta, or twelve Rupees if sent by Post.*

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## GOVERNMENT OF BENGAL,

## PUBLIC WORKS DEPARTMENT,

## Irrigation Branch.

## Irrigation Operations of Lower Bengal up to 31st January 1871.

Circle.	Canal.	WATER SUPPLIED DURING DECEMBER 1870.						ARRIVED AND STORIED DURING 1870-1.						NAVIGATION FREIGHT.						COTTON IRRIGATION.						REMARKS.			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20								
High Level	...	6	674	472	204	Cuttack	...	...	...	21,035	22,005	None	47,948	63,938	Local, in cluding 467 Passenger, Gort. Stores	116	152	1,505 6,901	129	3,189	Cotton 100 Oilseed 100	Colton 50 Oilseed 50	Canal closed for repairs from 1st January 1871.						
Midlands	...	6	1,300	715	169	Ditto	...	366	160	22,000	22,100	...	47,935	63,936	Local, Stores See Passage between Cuttack and Kesrapur.	98	124	4,503	1,12,945	Oilseed 100									
Orissa															63,935	63,935	Local, includ- ing 51 Pass- enger, in cluding 361 Passenger	92	466	18,079	Rice 100 Wheat 50 Maize 54	Cotton 200							
Kessrapur	...	7	1,203	450	726	Ditto	...	1,200	256	63,418	63,670	...	46,935	63,935	Local, in- cluding 51 Passenger, Gort. Stores	410	10,565	4,10,564	46	1,605	Cotton 610 Maize 250								
Kachrapur	...	8	875	...	...	Kesrapur	...	...	...	36,114	39,114	...	46,935	63,935	Local, in- cluding 51 Passenger, Gort. Stores	264	9,254	60,378	17	59	191								
S.-W. Circle															873	873	Total ...	142,797	13,679	Total for January 1870 ...									

T. M. KIRKWOOD, c. s.,

Canal Revenue Sepdt., Bengal.

GOVERNMENT OF BENGA<sup>L</sup>,  
PUBLIC WORKS DEPARTMENT,

## Integration Branch

## Irrigation Operations of Lower Bengal up to 28th February 1871.

Circles.	Ways Repaired During February 1973.	APPROXIMATE AREA IRIGATED DURING 1973-74.						16	17	18	19	CROSS IRRIGATION.						
		3	4	5	6	7	8					11	12	13	14	15	16	
Circle.	Circle.	High Level	3	673	4*	174	474	474	568	483	51	57	57	58	57	58	57	58
		Talukas	4	3,300	726	125	125	125	125	125	125	125	125	125	125	125	125	125
		Kendrapara	5	7	1,365	549	741	741	741	741	741	741	741	741	741	741	741	741
		Midnapore	6	875	240	875	875	875	875	875	875	875	875	875	875	875	875	875
		Panchkora	7	6	395	6176	395	395	395	395	395	395	395	395	395	395	395	395
		W. Circ.																
		High Level																
		Talukas																
		Kendrapara																
		High Level																
		Midnapore																
		Panchkora																
		W. Circ.																
		High Level																
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		Midnapore																
		Panchkora																
		W. Circ.																
		High Level																
		Talukas																
		Kendrapara																
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		Talukas																
		Kendrapara																
		High Level																
		Midnapore																
		Panchkora																
		W. Circ.																
		High Level																
		Talukas																
		Kendrapara				</td												

T. M. KIRKWOOD,  
*Canal Revenue Superintendent.*

## IRRIGATION BRANCH, PUBLIC WORKS DEPARTMENT, BENGAL.

## ORISSA CIRCLE.

Statement showing the amount of Traffic and Tolls on the Kharagpur Canal during the month of March 1871.

Distance from Cuttack to Terminal Lock at Tide water, 42 miles.

LOCAL TRAFFIC.		TRAFFIC BETWEEN CUTTACK AND SEA BOARD.										ABSTRACT.					
Number of boats.	Native of cargo.	Approximate value of cargo.	Tons.	Ton-miles. Mile.	Tollage.	Number of boats.	Native of cargo.	Approximate value of cargo.	Tons.	Ton-miles. Mile.	Tollage.	Number of boats.	Native of cargo.	Approximate value of cargo.	Tons.	Ton-miles. Mile.	Tollage.
2	Black peas (Kulai)	199 0 0	147	...	Rs. As. P.	16	Passengers, 31 in No.	6,657	...	Rs. As. P.	77	Local	Rs. 11 B	261	Rs. 623	67 16 1	
20	Paddy (Uba)	2,000 0 0	4,000	...		3	Nuts, &c.	3,910	...		28 10 0	1,18410	3,720	1,48300	1,484 0 4		
6	Paddy	464 0 0	929	...		3	Clothes	1,988	...		28 8 1	...	...	...	...	...	
6	Ditto	44	10	...		11	Paddy	1,983	...		511 6 0	...	...	...	...	...	
1	Ditto	...	1	...		10	Rice	10,693	...		20 12 0	...	...	...	...	...	
3	Ditto	216 0 0	316	...		1	Spices	1,524	...		10 0 0	...	...	...	...	...	
2	Ditto	...	171	...		6	Spices	27,986	6,377	Rs. As. P.	86 10 0	...	...	...	...	...	
3	Leather	835 0 0	615	...		14	Grain	848	349		4 14 0	...	...	...	...	...	
4	Passengers, 5 in No	137 0 0	698	...		4	Castor seeds	716	2,866		42 0 0	...	...	...	...	...	
4	Firewood	...	890	...		3	Juglal seeds	6,016	...		90 0 0	...	...	...	...	...	
3	Ditto	...	73 0 0	294	...	10	Jaggery	23,940	4,768		36 2 0	...	...	...	...	...	
2	Timber	...	1,650	...		9	Bamboos, 3,457 in No.	3,36	...		49 11 4	...	...	...	...	...	
2	Rumely	...	648	...		10	Salt	13,295	2,918		19 8 0	...	...	...	...	...	
1	Ditto	...	101	...		8	Cotton	7,525	1,405		16 10 0	...	...	...	...	...	
1	Ditto	...	101	...		1	Hides	6,890	1,618		6 13 0	...	...	...	...	...	
1	Ditto	...	101	...		190	Empty	19,890	4,100		230 0 0	...	...	...	...	...	
1	Ditto	...	101	...		47	Glyces (small piles)	5,000	1,180		109 9 4	...	...	...	...	...	
											1,18410	1,03,168	3,790	1,48,600	1,484 0 4		
														1,32,350	4,681	1,54,628 1,531 14 6	
77																	
3,940 0 0	10,110	881	5,688	67 14 1	607												

The tonnage and cost of the cargo.

Note.—Tulsiab and 1st Section of the High Level Canal closed for annual repair.

IRRIGATION BRANCH, PUBLIC WORKS DEPARTMENT, BENGAL.

SOUTH-WESTERN CIRCLE.

Statement showing the amount of Traffic and Tolls on the Middletown Section of the High Level Canal during the months of March 1871.

LENGTH OF CANAL OPEN, 24 MILES.

## IRRIGATION BRANCH, PUBLIC WORKS DEPARTMENT, BENGAL.

## SOUTH-WESTERN CIRCLE.

Statement showing the amount of Traffic and Tolls on the Hidgellos Tidal Canal during the month of March 1871.

LENGTH OF CANAL OPEN, 26 MILES.

Number of boats	Nature of cargo.	LOCAL TRAFFIC.			ABSTRACT.			Remarks.			
		Approximate value of cargo.	Maunds.	Tons.	Tonnage.	Number of boats.	Nature of traffic.	Value of traffic.	Tonnage.	Top-milage.	Tollage.
6	Tobacco	2,80	1,075	...	...	5 6 0	60	Local	8,705	768 <sup>1</sup> <sub>4</sub>	107 5 0
1	Salt	1600	225	...	...	1 2 0	...	...	...	...	...
2	Scindree wood	240	1,320	...	...	6 8 0	...	...	...	...	...
3	Clothes	2,000	240	...	...	1 0 0	...	...	...	...	...
2	Pottery	60	450	...	...	2 6 0	...	...	...	...	...
2	Tile bricks	360	2,250	...	...	11 0 0	...	...	...	...	...
1	Water	375	450	...	...	2 6 0	...	...	...	...	...
2	Corn	800	240	...	...	1 2 0	...	...	...	...	...
1	Plantain	200	60	...	...	0 4 0	...	...	...	...	...
2	Hutalwood	40	150	...	...	0 12 0	...	...	...	...	...
1	Grass	300	900	...	...	1 0 0	...	...	...	...	...
9	Coal	1,750	6,075	...	...	43 0 0	...	...	...	...	...
18	Empty	5,210	...	...	...	20 0 0	0	...	...	...	...
5	Passengers. No. 33	350	...	...	...	2 0 0	...	...	...	...	...
2	Paddy	140	420	...	...	2 10 0	...	...	...	...	...
50		8,705	21,035	768 <sup>1</sup> <sub>4</sub>	107 5 0	50			8,705	768 <sup>1</sup> <sub>4</sub>	107 5 0

Canal closed for repair throughout the month, being navigable for only a short distance at each end.

The tonnage shown is that of the boats and not of the cargo.

IRRIGATION BRANCH, PUBLIC WORKS DEPARTMENT, BENGAL.

SOUTH-WESTERN CIRCLE.

Statement showing the amount of Traffic and Tolls on the Midnapore Section of the High Level Canal during the month of April 1871.

Length of Canal open, 24 miles.

Number of articles.	Nature of cargo.	LOCAL TRAFFIC.			STORES AND MATERIALS FOR IRRIGATION WORKS.			ABSTRACT.		
		TRAFFIC.		Tolls. Tons. Mileage.	Tolls. Tons. Mileage.	Tolls. Tons. Mileage.	Tolls. Tons. Mileage.	Tolls. Tons. Mileage.	Tolls. Tons. Mileage.	Tolls. Tons. Mileage.
		Appre- ciable value of cargo. Rupees.	Tons. Mileage.							
2	Coal	60	300	1.8	1	348	3,575	26	6	1,219
4	Cotton	6,060	1,675	1.7	11	0	93	14	12	223
1	Flax	67	225	1	11	0	60	10	8	0
2	Hides & Leather	491	303	1	13	0	3	6	1	67
2	Langar & sugar	174	401	1	2	6	0	1	0	11
3	Metal	4,730	675	1	3	3	0	1	0	1
97	Oil and oilseeds	24,483	19,195	1	75	2	0	1	0	1
2	Paddy & rice	4,192	1,100	1	6	10	0	1	0	1
12	Fruit goods	8,555	3,975	1	24	0	5	1	0	1
10	Garden produce	1,059	1,926	1	9	0	0	1	0	1
13	Salt	7,650	4,975	1	30	11	6	1	0	1
7	Tobacco	1,893	1,475	1	9	10	6	1	0	1
1	Hicks	18	523	1	5	4	6	1	0	1
45	Empty boats	4,955	1,100	1	27	6	0	1	0	1
44	Passenger, No 188	111	111	1	1	6	0	1	0	1
...	Miscellaneous	...	...	1	16	9	11	1	0	1
179		64,189	34,60	1,219	12,349	223	0	5	206	1,657
						497	8,475	326	1,659	67 11 0
									34,686	269 11 6
										269 11 6

No. 1 or Oola-  
bari Range

closed for re-  
pair of Lock

during the  
months.

Thus tonnage  
shown is that  
of the boats  
and not of  
the cargo.

## IRRIGATION BRANCH: PUBLIC WORKS DEPARTMENT, BENGAL.

SOUTHWESTERN STUDIES

Statement showing the amount of Traffic and Tolls on the Hedges' Tidal Canal during the month of April 1871.

LIMIT OF CANAL 28 MILES.

LITERATURE

## STOKES AND MATERIALS FOR IRRIGATION WORKS.

Range No.	Name of cargo.	Tonnage.		Approximate value of cargo.	Nature of cargo.	Number of boats.	Tonnage.	Number of boats.	Tonnage.	Number of boats.								
		Tons.	Chandals.															
62	Pepper	25,910	...	Rs. 10,646	Gleaning	8	285	15	3	212	23	15	3	19	1861	4,941 1/2	4,912 3/4	
63	Rice	4,840	...	6,031	Stokes	3	25	3	0	240	21	15	3	19	1861	2,612	2,612	
64	Tobacco	4,346	...	6,920	Wire driving engine	8	58	1	3	240	0	7	8	...	...	...	...	
65	Lime	350	...	0	Iron	1	0	1	0	84	0	7	8	...	...	...	...	
66	Vegetable	17	...	1	Empty	8	0	4	0	100	0	7	8	...	...	...	...	
67	Skim	446	...	1	0	0	0	13	0	410	2	1	0	...	...	...	...	
68	Hamboon No. 150	16	...	1	0	0	0	8	0	...	...	...	...	...	...	...	...	
69	Pottery	75	...	1	0	0	0	13	0	...	...	...	...	...	...	...	...	
70	Timber No. 4	46	...	1	0	0	0	13	0	...	...	...	...	...	...	...	...	
71	Furniture	100	75	1	0	0	0	13	0	...	...	...	...	...	...	...	...	
72	Hatalwood	195	560	1	0	0	0	7	0	...	...	...	...	...	...	...	...	
73	Chains	75	60	1	0	0	0	9	0	...	...	...	...	...	...	...	...	
74	Jagrey	280	400	1	0	0	0	9	0	...	...	...	...	...	...	...	...	
75	Jagie	97	75	1	0	0	0	6	0	...	...	...	...	...	...	...	...	
76	Firewood	616	1,723	1	0	0	0	25	12	6	...	...	...	...	...	...	...	
77	Corn	1,070	475	1	0	0	0	3	0	...	...	...	...	...	...	...	...	
78	Iron	2,600	900	1	0	0	0	4	8	0	...	...	...	...	...	...	...	
79	Salt	15,476	19,000	1	0	0	0	153	1	5	...	...	...	...	...	...	...	
80	Coal	97	825	1	0	0	0	10	2	6	...	...	...	...	...	...	...	
81	Sugar	845	650	1	0	0	0	6	1	0	...	...	...	...	...	...	...	
82	Clothes	3,600	450	1	0	0	0	3	4	0	...	...	...	...	...	...	...	
83	Cotton	6,074	1,725	1	0	0	0	31	0	0	...	...	...	...	...	...	...	
84	Wax	200	600	1	0	0	0	6	11	0	...	...	...	...	...	...	...	
85	Spices	1,600	320	1	0	0	0	1	8	0	...	...	...	...	...	...	...	
86	Water	...	625	1	0	0	0	8	0	0	...	...	...	...	...	...	...	
87	Plantain	20	75	1	0	0	0	0	8	0	...	...	...	...	...	...	...	
88	Passenger No. 30	...	630	1	0	0	0	5	4	0	...	...	...	...	...	...	...	
89	Empty	...	30,975	1	0	0	0	207	7	3	...	...	...	...	...	...	...	
90		66,342	78,080	2,750	79,618	9,27	5	0	18	5,314	1861	4,911 1/2	4,912 3/4	0	294	55,973	2,975	2,975

Note.—Kendricks, Tablenda, and 1st Section of the High Level Canal in the Philippines closed for修繕.

Calcutta,  
The 20th June, 1871.

G. A. STANLEY, Lieutenant-Colonel, S. C.,  
and G. C. STANLEY, P. H. H., Irrigation Branch, Bengal.

## Meteorological Telegraphic Report for the period 11th to 17th June 1871.

STATION	Date.	H. O. R.	Barometer Reduced to 82°.	Barometer Reduced to sea-level. <sup>1</sup>	THERMOMETER.		Humid. Sat. = 100.	WIND.		Rain.	Clouds.	Weather initials.
					Dry.	Wet.		Direction.	Velocity.			
CALCUTTA.	June											
	11th	10	29.612	29.620	81.6	80.8	97	S	...	1.00	...	o
	10	29.617	29.625	81.9	81.6	97	E S E	...	0.08	...	o	
	12th	10	29.581	29.588	80.0	83.6	97	N E	...	...	...	o
	10	29.489	29.497	83.0	82.0	95	E S E	...	2.18	...	o	
	13th	10	29.447	29.455	84.8	80.3	81	S E	...	0.18	N	o
	10	29.448	29.457	82.4	81.1	83	W by W	...	1.20	...	o	
	14th	10	29.423	29.431	82.7	82.5	85	S by R	...	0.06	E	o
	10	29.407	29.415	82.6	82.4	87	S by W	...	0.06	N	o	
	15th	10	29.505	29.515	83.8	82.0	83	S by W	...	0.06	K K	o, d
	10	29.414	29.423	81.3	81.3	83	S by W	...	0.06	K, C	o	
	16th	10	29.480	29.484	82.2	82.5	86	S by W	...	0.26	S	o
	10	29.379	29.387	80.0	81.5	81	S by W	...	...	C, CK	o	
	17th	10	29.448	29.511	80.0	81.2	79	S by W	...	...	o	o, d
	10	29.489	29.490	83.6	87.6	87	S	...	...	o	o	
BARRACK PURI.	11th	10	29.616	29.621	88	84	91	S N W	10.6°	0.60	N	o, d, m
	10	29.547	29.553	88	85	91	S E E	3.5°	...	N	o, m	
	10	29.549	29.559	89	88	91	S S E E	8.4°	0.80	N	b	
	10	29.465	29.471	87	88	88	S S E	6.0°	...	N	b	
	10	29.440	29.448	88	84	91	S N E	13.7°	...	N	a, m	
	10	29.475	29.481	87	89	93	S S W	14.7°	...	N	m	
	10	29.530	29.530	89	82	94	W X W	11.6°	0.80	N	o, d, m	
	10	29.413	29.418	90	89	87	S	4.5°	0.10	N	o	
	10	29.519	29.516	85	88	91	W	4.5°	0.40	N	m, o	
	10	29.415	29.451	85	82	87	S S	2.5°	0.30	N	o, m	
	10	29.403	29.404	86	89	88	S S	0.4°	1.20	N	a, m	
	10	29.486	29.491	87	89	88	S S E	11.9°	...	N	b, m	
	10	29.523	29.528	88	89	87	S S W	17.0°	0.20	N	o, m	
	10	29.446	29.451	88	89	94	S S	20.4°	...	N	b, m	
CHITTAGONG.	11th	10	29.628	29.742	88	80	76	W	5.8°	...	K, Ks	b
	10	29.607	29.677	89	78	87	S	15.9°	...	K, Ks	b	
	10	29.589	29.708	87	81	79	S K	0.2°	...	K	b	
	10	29.447	29.517	81	79	91	W X W	11.4°	0.10	K, Ks	b	
	10	29.602	29.671	88	81	97	S S E	8.4°	0.80	K, Ks	b	
	10	29.404	29.603	89	74	86	S W	11.9°	...	K, Ks	b	
	10	29.614	29.674	86	79	76	S S E	8.0°	...	K, Ks	b	
	10	29.618	29.648	88	80	79	S S	16.6°	...	K, K	b	
	10	29.451	29.551	88	80	75	S	6.3°	...	K	b	
	10	29.519	29.618	86	80	88	S W	18.7°	0.20	Ks	b, m	
	10	29.604	29.618	86	81	79	E S E	8.2°	0.10	K, Ks	b, m	
	10	29.617	29.628	82	78	87	S K	14.2°	0.10	N	o	
	10	29.620	29.630	89	80	91	E S E	8.9°	0.10	Ks	d, o	
	10	29.603	29.679	80	79	95	W N W	9.4°	1.30	N	d, o	
MADRAS.	10th	10	29.741	29.771	89	78	40	N W by W	16°	...	...	b
	10	29.615	29.645	90	78	58	S E by E	12°	...	...	b	
	10	29.783	29.813	82	78	49	W S W	18°	...	...	b	
	10	29.687	29.717	94	76	40	W N W	7°	...	...	a	
	10	29.709	29.820	85	78	61	S E	12°	0.11	...	a	
	10	29.650	29.689	93	76	46	B by W	13°	...	...	a	
	10	29.782	29.819	92	76	42	B by W	11°	...	...	b	
	10	29.697	29.667	87	77	61	E by V	11°	...	...	b	
	10	29.787	29.707	98	76	40	W H W	19°	0.08	...	b	
	10	29.638	29.649	86	77	46	S	0°	...	...	b	
	10	29.738	29.768	90	74	39	W S W	15°	...	...	b	
	10	29.610	29.640	98	78	33	N N W	10°	...	...	b	
	10	29.738	29.762	99	74	42	S W	15°	0.08	...	b	
	10	29.660	29.619	96	74	61	W S W	12°	...	...	b	
CEYLON.	10th	10	29.846	29.877	89	89	73	S W	5.1°	...	CK, N	
	10	29.489	29.870	90	89	69	N N E	8.6°	...	Ks, N		
	10	29.719	29.813	82	78	49	W S W	18°	...	N		
	10	29.489	29.504	89	80	66	N W	3.5°	...	N, K		
	10	29.570	29.612	90	79	59	W	9.8°	...	N, Ks		
	10	29.630	29.612	84	78	75	W	9.2°	...	N, C		
	10	29.610	29.501	89	79	63	W	0.2°	...	N		
	10	29.525	29.617	87	79	69	W S W	4.2°	...	N		
	10	29.517	29.609	86	80	79	W S W	5.8°	...	N, N		
	10	29.417	29.510	89	79	87	W	6.1°	...	N, N, C		
	10	29.475	29.567	80	80	66	W R W	3.9°	...	N, N, C		
	10	29.383	29.406	88	80	87	S W	3.7°	...	N, N		
	10	29.447	29.510	88	79	72	S W	3.6°	...	N, C		
	10	29.276	29.357	87	80	72	S W	7.1°	...	N, C		
AYR.	11th	10	29.768	29.773	82	81	61	S	1	1	N	
	10	29.600	29.605	84	83	65	S	1	1	N, K, C		
	10	29.798	29.708	84	80	63	S X W	2	...	N		
	10	29.614	29.614	88	79	87	S S W	1	...	C, N		
	10	29.599	29.718	76	70	90	S A	1	4.00	N		
	10	29.701	29.701	79	77	90	S A W	1	0.10	N		
	10	29.671	29.671	88	88	87	S X W	1	0.40	N		
	10	29.653	29.668	80	78	91	S W	1	0.40	N		
	10	29.667	29.592	78	78	95	S W	1	0.30	N		
	10	29.558	29.573	78	78	90	S A	1	1.30	N		
	10	29.574	29.649	80	78	91	S A	1	0.10	N		
	10	29.636	29.650	88	81	91	S A	1	2.20	N		
	10	29.594	29.609	80	79	95	S W	2	0.80	N		

\* Velocity of wind in miles per hour.

CALCUTTA,  
The 17th June 1871.HENRY F. BLANFORD,  
Meteorological Reporter to the Government of Bengal.

**Weekly Report of Rainfall compiled at the Meteorological Reporter's Office.**

District.	Stations.	Rainfall from 20th May to 4th June 1871.		Rainfall from 5th to 11th June 1871.		Rain from 1st JANUARY 1871.		Remarks.
		Rainfall from 20th May to 4th June 1871.	Rainfall from 5th to 11th June 1871.	Rain.	Up to date.			
Cuttack.	Cuttack { Telegraph Office	0.00	Nil	14.48	11th June 1871			
	Jail	1.11	ditto	12.07	ditto.			
	False Point	1.70	Not received	15.65	4th June 1871			
	Jajipore	2.10	1.00	11.40	11th June 1871			
	Kendrapurah	1.00	1.30	14.20	ditto.			
	Juguttingpore	0.00	Nil	14.60	ditto.			
	Sambalpore	0.35	Not received	3.23	4th June 1871	Not received 16th to 21st May.		
	Balasore	1.76	0.83	17.60	11th June 1871			
	Bhadrak	1.74	0.66	15.00	ditto.			
	Pearon	1.43	Nil	11.07	ditto.			
Certa Napar.	Khordhah	Not received	Not received	11.23	28th May 1871.			
	Hazreebaugh	0.21	1.61	6.00	11th June 1871			
	Burhia	1.16	1.39	6.39	ditto.			
	Pachumba	2.88	Nil	9.21	ditto.			
	Itanchee	Not received	Not received	2.40	30th April 1871.			
	Palanpur	0.71	0.27	2.41	11th June 1871.			
	Parulia	1.84	0.74	10.17	ditto.			
	Chyebasas	1.11	2.00	11.39	ditto.			
	Patna	Nil	Nil	6.19	ditto.			
	Behar	1.10	ditto	6.72	ditto.			
Patna.	Burb	0.25	ditto	3.57	ditto.			
	Dinapore	0.02	0.33	2.41	ditto.			
	Gya	0.20	0.30	4.94	ditto.			
	Sherghatto	Nil	1.82	4.30	ditto.			
	Sewadah	ditto	Nil	6.00	ditto.			Not received 10th to 16th April.
	Arangabad	ditto	0.31	3.85	ditto.			
	Champaran	ditto	Not received	0.51	4th June 1871.			
	Bettiah	Not received	Nil	11th June 1871	From 6th June.			
	Choprak	0.80	ditto	4.70	ditto.			
	Sewan	Not received	Not received	7.70	28th May 1871.			
Muzaffarpur.	Muzaffarpur	1.60	Nil	6.83	11th June 1871.			Not received 16th to 21st May.
	Durlibhangah	Nil	0.25	4.63	ditto.			
	Seetamaree	0.00	0.10	6.01	ditto.			Not recorded 6th to 18th Mar.
	Tajpore	1.32	Nil	4.19	ditto.			From 1st April.
	Mudhishmi	0.00	ditto	6.13	ditto.			From 21st May.
	Hajipore	Nil	ditto	6.66	ditto.			
	Arran	1.33	ditto	5.00	ditto.			
	Unsar	0.45	ditto	4.25	ditto.			
	Reseram	Nil	0.10	2.44	ditto.			
	Blubhooah	ditto	2.30	5.67	ditto.			
Brahmapur.	Banaras	ditto	0.16	2.86	ditto.			
	Bhingulpore	Not received	Not received	1.07	23rd April 1871			
	Mudheypurah	0.40	Nil	9.20	11th June 1871.			
	Banks	0.14	ditto	8.71	ditto.			Not received 22nd to 28th May.
	Monghyt	0.08	ditto	2.40	ditto.			
	Jamnoot	0.30	ditto	7.48	ditto.			
	Begansari	0.20	0.00	6.31	ditto.			
	Deoghar	0.06	0.09	12.01	ditto.			
	Jumtarn	2.00	0.00	12.80	ditto.			
	Rajmahal	Not received	Not received	6.00	21st May 1871			From 19th Feb.
Rajmahal.	Pakoor	Nil	Nil	2.26	11th June 1871			From 19th Feb., and not received 25th March to 7th April.
	Purnah	0.98	1.98	9.80	ditto.			From 8th May.
	Bamwore	Not received	Not received	6.10	11th June 1871			Not received 29th May to 4th June.
	Banulash	2.23	8.61	16.80	ditto.			
	Saltora	0.00	15.74	20.27	ditto.			
	Begrah	0.40	0.41	19.61	ditto.			
	Dinapore	0.00	1.37	9.82	ditto.			
	Maldah	1.19	1.37	9.82	ditto.			
	Bershampora	1.74	0.60	19.18	ditto.			
	Jungipore	1.81	1.01	10.26	ditto.			
Burdwan.	Lalbagh	2.03	0.38	8.81	ditto.			From 16th Jan.
	Jamnokandi	1.83	0.51	9.00	ditto.			From 17th April.
	Puthia	2.69	4.63	22.83	ditto.			
	Cootemcolly	Not received	Not received	6.02	23rd April 1871.			
	Sarniogunge	8.24	6.80	24.83	11th June 1871.			
	Hingpore	Nil	15.00	27.50	ditto.			
	Bhowtingung	ditto	12.00	26.70	ditto.			From 23rd Jan.
	Titalya	9.24	5.70	18.13	ditto.			
	Bardwao	0.57	2.88	14.37	ditto.			
	Cutwa	2.29	0.50	14.92	ditto.			
Burdwan.	Culua	2.04	8.69	21.44	ditto.			
	Bood-Bood	0.74	2.14	17.48	ditto.			
	Buncourah	8.02	2.44	19.08	ditto.			
	Raoeogung	1.13	1.40	11.30	ditto.			
	Sooren	1.74	0.87	10.74	ditto.			
	Houghly	2.00	1.00	10.27	ditto.			
	Sohampore	2.41	6.84	18.24	ditto.			
	Jehannabad	1.73	Not received	10.75	4th June 1871			From 20th Mar.
	Howrah	4.67	8.48	36.14	11th June 1871.			From 8th April.
	Mudnapore	1.00	0.80	22.79	ditto.			
Contai.	Dy. Collr.'s Office	8.33	2.10	21.94	ditto.			
	Engg.'s Office	2.95	2.73	36.76	ditto.			
	Gurbetta	0.81	2.50	15.67	ditto.			
	Tumlock	6.07	0.88	31.19	ditto.			From 8th Feb.

SUPPLEMENT TO THE CALCUTTA GAZETTE, JUNE 21, 1871. 387

DIVISION.	Stations.	Rainfall from 15th to 21st May 1871.	Rainfall from 22nd to 28th May 1871.	Rain from 1st JUNE 1871.		Remarks.
				Rain.	Up to date.	
	Kishnaghur	2.99	2.46	10.61	11th June 1871.	
	Bongalg	5.10	6.99	28.49	ditto.	
	Ranaghat	1.42	7.69	23.17	ditto.	
	Mulherpore	2.33	2.98	15.23	ditto.	
	Chittendongah	2.40	2.66	27.90	ditto.	
	Koothonah	2.06	5.03	21.80	ditto.	
	Assam	4.66	5.20	28.03	ditto.	
	Khoolpnah	0.89	0.78	23.29	ditto.	
	Jamindah	2.75	Not received	16.31	4th June 1871.	
	Kurul	4.86	ditto	18.20	ditto.	
	Magnorah	1.93	ditto	10.26	ditto.	
	Bagurhaut	2.00	ditto	14.18	ditto.	
	Bangor Island	2.80	ditto	20.80	ditto.	
	Calcutta	7.63	5.79	37.98	11th June 1871.	
	Alipore { Jail	10.64	8.35	38.03	ditto.	
	Hospital	10.64	8.35	35.92	ditto.	
	Barrackpore	7.94	Not received	20.23	4th June 1871.	
	Doin Doin	8.82	ditto	21.03	ditto.	
	Buracet	1.09	ditto	15.37	ditto.	
	Satkhorah	1.48	ditto	19.09	ditto.	
	Buraceahul	2.20	ditto	19.05	ditto.	
	Diamond Harbour	2.48	ditto	81.10	ditto.	
	Burripore	4.40	ditto	27.43	ditto.	
	Dacca { Telegraph Office	2.73	0.39	33.98	11th June 1871.	
	Jail	2.40	4.30	33.00	ditto.	
	Burrisaul	2.61	7.78	27.57	ditto.	
	Dowlat Khan	1.60	7.76	22.19	ditto.	
	Periopore	1.85	10.15	29.77	ditto.	
	Maduripore	2.16	4.91	20.24	ditto.	
	Entreipore	6.40	0.21	33.83	ditto.	
	Guadlundo	Not received	8.85	8.85	ditto.	
	Symmering	0.01	12.40	42.09	ditto.	
	Jamalpore	3.14	Not received	24.10	4th June 1871.	
	Atteah	5.09	ditto	24.69	ditto.	
	Kuthoregungo	5.98	20.81	46.09	11th June 1871	
	Sylhet	1.66	5.64	39.48	ditto.	
	Carber	0.80	1.01	31.36	ditto.	
	Hulakandy	0.28	Not received	35.97	4th June 1871.	
	Koyah	2.17	ditto	41.80	ditto.	
	Chittagong { Telegraph Office	1.20	7.80	28.90	11th June 1871.	
	Jail	1.69	17.08	33.98	ditto.	
	Cox' Bazar	1.43	Not received	28.04	4th June 1871.	
	Hangmata Hill	1.36	ditto	29.80	ditto.	
	Nomkhally	1.55	12.07	33.78	11th June 1871.	
	Tipperah	0.87	12.40	30.40	ditto.	
	Brahmanbaria	1.20	Not received	30.30	4th June 1871.	
	Akyab	5.90	16.80	42.10	11th June 1871.	
	Bura	7.77	0.95	35.69	ditto.	
	Gowalparah	0.70	5.80	30.58	ditto.	
	Dhoolizze	1.00	6.90	37.47	11th June 1871.	Not recorded 27th Feb. to 6th March.
	Tura (Garo Hills)	4.46	Not received	27.01	4th June 1871.	
	Darjeeling { Telegraph Office	Not received	ditto	7.10	30th April 1871.	
	Jail	2.44	8.30	20.60	11th June 1871.	
	Rungkor	Not received	Not received	19.20	3rd April 1871.	
	Palencotah	0.23	2.70	17.15	11th June 1871.	
	Jalpigooree	5.41	0.09	23.90	ditto.	
	Boda	0.27	9.55	20.60	ditto.	
	Tempore	1.89	0.90	28.16	ditto.	
	Nowrang	0.80	0.80	23.28	ditto.	
	Mundodro	0.65	Not received	24.11	4th June 1871.	From 20th Jan.
	Burjettah	0.10	ditto	35.24	ditto.	
	Nowhatta	Nil	ditto	17.88	ditto.	
	Sambanget	0.10	ditto	30.92	ditto.	
	Jorahaut	1.55	ditto	27.15	ditto.	
	Gulahat	0.11	ditto	23.81	ditto.	
	Sasaram	0.08	ditto	32.54	ditto.	
	Dobroogur	18.93	ditto	24.00	ditto.	
	Suldy	1.09	ditto	23.68	ditto.	
	Shillong	3.41	6.23	20.28	11th June 1871.	
	Cherrapongees	1.91	20.73	38.61	ditto.	From 18th Feb.
	Jwan	0.44	Not received	39.93	4th June 1871.	
	Bamoungodting	Not received	ditto	12.85	28th May 1871	

CALCUTTA,  
The 17th June 1871.

HENRY F. BLANFORD,  
Meteorological Reporter to the Govt. of Bengal.

**Abstract of Observations as received in the Meteorological Reporter's Office, Calcutta,**  
**DURING THE HALF MONTH 16th TO 30th APRIL, 1871.**  
*N.B.—The Barometric data are reduced for temperatures, and not for height above sea level.*

STATION.	THERMOMETER.						HUMIDITY.						RAINFALL.					
	MEAN OF			SOLAR RADIATION.			MEAN OF			HUMIDITY MAX.			MEAN OF			RAINFALL.		
	10 hours.	12 hours.	24 hours.	Max.	Min.	Day.	10 hours.	12 hours.	24 hours.	Day.	Day.	Day.	10 hours.	12 hours.	24 hours.	16 hours.	24 hours.	
Port Blair	110	27	29.792	...	29.845	29.718	...	...	...	...	...	...	...	...	...	...	...	...
Madras	31	29.633	29.720	29.827	29.710	29.785	11.1	121.9	116.4	116.4	116.4	116.4	116.4	116.4	116.4	116.4	116.4	116.4
Vengapattinam	15	29.509	29.796	29.860	29.765	29.816	11.4	...	...	...	...	...	...	...	...	...	...	...
Alur	15	29.509	29.796	29.860	29.765	29.816	11.4	...	...	...	...	...	...	...	...	...	...	...
Police Point	18.7	29.816	29.732	29.850	29.785	29.829	12.0	...	...	...	...	...	...	...	...	...	...	...
Cuttack	60	29.697	29.761	29.813	29.747	29.817	11.5	138.7	138.7	138.7	138.7	138.7	138.7	138.7	138.7	138.7	138.7	138.7
Saunder Island	6	29.761	29.761	29.766	29.724	29.813	11.3	139.4	139.4	139.4	139.4	139.4	139.4	139.4	139.4	139.4	139.4	139.4
Chittagong	108	29.727	29.685	29.704	29.683	29.737	10.1	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9
Calcutta	15.1	29.769	29.738	29.825	29.764	29.773	11.3	145.4	145.4	145.4	145.4	145.4	145.4	145.4	145.4	145.4	145.4	145.4
Almora	97	29.755	29.744	29.812	29.700	29.765	11.2	148.5	148.5	148.5	148.5	148.5	148.5	148.5	148.5	148.5	148.5	148.5
Dacca	65	29.764	29.741	29.819	29.736	29.768	11.1	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3
Calcutta	73	29.722	29.751	29.801	29.731	29.781	11.5	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6
Hansorehong	3.014	29.774	27.714	27.746	27.740	29.740	0.92	157.3	157.3	157.3	157.3	157.3	157.3	157.3	157.3	157.3	157.3	157.3
Bethampore	80	29.682	29.676	29.747	29.614	29.689	1.83	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6
Gra	69.2	17.9	29.564	29.638	29.630	29.588	1.00	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7
Pala	17.9	29.555	29.546	29.635	29.481	29.581	1.11	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7
Mongolir	16.4	29.555	29.546	29.635	29.481	29.581	1.11	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7	159.7
The Gonding	6.945	9.333	23.309	23.349	23.349	23.349	0.46	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3
Gorakhpur	39.6	29.869	29.862	29.940	29.837	29.940	1.42	146.4	146.4	146.4	146.4	146.4	146.4	146.4	146.4	146.4	146.4	146.4
Bullang	4.792	25.207	25.207	25.207	25.198	25.198	0.90	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0
Bearna	28.774	28.460	28.460	28.460	28.458	28.458	1.07	129.4	129.4	129.4	129.4	129.4	129.4	129.4	129.4	129.4	129.4	129.4
Bowles	87.7	28.686	28.612	28.612	28.595	28.595	0.98	128.4	128.4	128.4	128.4	128.4	128.4	128.4	128.4	128.4	128.4	128.4

## CALCUTTA—APRIL 1871.

Mean Barometric pressure of 16 years	99.757	Mean temperature of 16 years	84.75	Mean rainfall of 16 years	69
Barometric pressure in 1871	99.771	Actual temperature in 1871	84.76	Actual rainfall in 1871	70
Deficit in 1871	-0.14	Excess in 1871	-0.01	Excess in 1871	-11

Mean rainfall of 16 years	91.8
Actual rainfall in 1871	67.8
Deficit in 1871	-24.0
	-36.8

Calcutta,  
 The 16th June 1871.

Harry P. Blanford,  
 Meteorological Reporter to the Govt. of Bengal.

SUPPLEMENT TO THE CALCUTTA GAZETTE, JUNE 21, 1871.

Results of the Meteorological Observations taken at the Surveyor-General's Office, Calcutta, from 8th to 14th June 1871.

Month.	Date.	Mean reduced barometer. Inches.	THERMOMETER.				Mean wet bulb.	Computed dew-point.	WINDS.			GENERAL REMARKS.	
			Highest reading. ○	Lowest reading. ○	Max. solar radia- tion. ○	Mean dry bulb. ○			Max. present direction. W	Prevailing direction. W	Max. present velocity. Mil. 120.8		
June	8th	29.608	87.6	80.6	132.0	89.3	80.6	76.7	0.68	W S W, N N W & N E	120.8	0.12	...
	9th	29.620	85.9	77.8	127.6	81.5	80.1	70.1	0.90	W by S A S S W	20	101.0	401
	10th	29.605	80.0	80.5	141.8	83.7	80.4	78.1	0.84	S W and S S W	0.8	153.2	0.76
	11th	29.678	88.0	80.2	—	81.4	80.3	79.8	0.94	S S R & S by E.	...	109.7	0.94
	12th	29.641	88.0	79.8	145.8	82.5	81.0	79.7	0.91	S E & S S E	...	109.8	0.18
	13th	29.616	84.8	80.0	—	81.7	80.5	79.7	0.94	S by W and S	...	107.4	1.38
	14th	29.498	87.0	81.0	152.8	83.6	81.5	80.0	0.99	S and S S W	...	77.4	0.08

The mean barometer, as likewise the dry and wet bulb thermometer means, are derived from the twenty-four hourly observations made during the day.

The dew-point is computed with the Greenwich constants.—The figures in column 10 represent the humidity of the air, the complete saturation of which being taken at unity.—The receiver of the lower rain gauge is 1½ feet, and that of the anemometer 70 feet 10 inches, above the level of the ground.—The velocity of wind, as indicated by Robinson's anemometer, is registered from noon to noon.

The extreme variation of temperature during the past seven days	...	12.2
The max. temperature during the past seven days	...	90.0
The max. temperature during the corresponding period of the past year	...	94.8
The mean humidity during the past seven days	...	0.90
The mean humidity during the corresponding period of the past year	...	0.74
The total fall of rain from 8th to 14th		Inches.
... { by lower rain gauge	...	8.86
... { by anemometer gauge	...	8.29
Ditto, average of seventeen previous years	...	3.73
Ditto, between the 1st January and the 14th June	...	40.75
Ditto, ditto ditto, average of seventeen previous years...	...	16.53

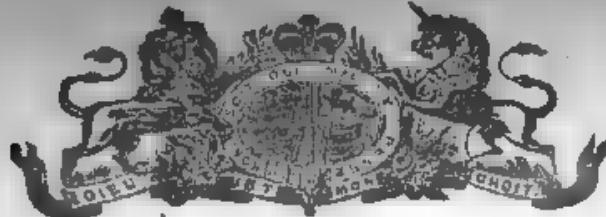
GORENNAUTH SEN,

In charge of the Observatory.

The 19th June 1871.

No. 26

of 1871



# SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JUNE 28, 1871.

## OFFICIAL PAPERS.

*Non-Subscribers to the GAZETTE may receive the SUPPLEMENT, separately, on payment of six Rupees per annum if delivered in Calcutta, or twelve Rupees if sent by Post.*

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### Specimens of Lead Ore found in the Bhaugulpore District.

From THOMAS OLDHAM, Esq., Superintendent, Geological Survey of India, to the Under-Secretary to the Government of Bengal, Revenue Department,—(No. 101, dated the 22nd May 1871.)

I HAVE the honor to acknowledge the receipt of your letter No. 1826, dated 19th instant, and of the specimens of *lead ore* referred to therein, stated to have been found on a hill by the Collector of Bhaugulpore.

2. The ore sent are galena, the sulphide of lead, the most common and widely distributed of the ores of lead, consisting of about 14 per cent. of sulphur and 86 per cent. of lead. Galena generally contains also an admixture of silver in varying quantities, often to an amount which renders the ore very valuable. The specimens submitted have yielded 52oz. 8dwts. 14grs. of silver to the ton of lead. The galena is coated on either side with a ferruginous gossan, or earthly mixture of metallic and clayey substance. This was also tested for silver, and found to yield 3oz. 18dwts. 9grs. per ton of lead.

3. An ore yielding 52oz. of silver to the ton would be highly valuable if it occurred in any quantity. With improved processes of reduction in England, two ounces in the ton pay for all cost of separation of the silver. The present ore is therefore unusually rich and valuable.

4. It is quite impossible from small hand specimens to form any opinion as to the quantity in which the ore occurs, the facility with which it could be extracted, and the nature of the lode or vein in which it is, and it is just on these that the commercial value of any such deposit of ores will depend.

From V. T. TAYLOR, Esq., Officiating Collector of Bhaugulpore, to the Commissioner of the Bhaugulpore Division,—(No. 277, dated Bhaugulpore, the 5th June 1871.)

I HAVE the honor to acknowledge the receipt of your memorandum No. 179, dated 28th ultimo, and in reply thereto to report as follows.

2. The enclosed map shows the position of the exact spot whence the lead ore was taken. From it you will see that there are two cart roads to the place from Banka itself, the more

circuitous one being the better and more convenient road. There is also a road to the Simul-tolah station on the chord line, which station is about 22 miles off or thereabouts, the map being on the scale of one mile to the inch.

3. The land is in the zamindari (perpetually settled) of Rajah Leelamund Singh, and is situated within pargannah Sharun, though from the map it would seem to be in Chundun Kattoria; this is accounted for by the fact that Mothabari and sixteen dakhila villages under it form part of pargannah Sharun, though they are bounded on the east by pargannah Darasakwara, and on the north, south, and west by villages situated in pargannah Chundun Kattoria.

4. I have made further enquiries, and now learn that the mine—if mine there be—is in an undulating plain at the foot of the hills marked in the map, and that the lead was first discovered five years ago, by some Coles who were digging for iron ore; that one Prem Chowday of Tikona, a mahajun, who saw some of the ore in their possession, sent it to Rajah Leelamund Singh as well as to the then Deputy Magistrate of Banka, Mr. Metcalfe; and that Mr. Metcalfe sent some specimens to Government, but with what results there is no record to show.

5. Rajah Leelamund Singh, it appears, made some further enquiries, and thinking it was *surma* (a preparation put upon the eyes and not lead) abandoned any project he may have entertained of digging further.

6. The ore, however, I am informed, is really valuable, and almost pure galena.

From V. T. TAYLOR, Esq., Officiating Collector of Bhaugulpore, to the Secretary to the Government of Bengal in the Revenue Department,—(No. 159, dated Bhaugulpore, the 12th May 1871.)

I HAVE the honor to forward specimens of lead ore taken from a hill during my last cold weather tour.

2. I have had the ore analyzed, and I am informed that it is "very pure and a very valuable mineral."

Now that the chord line is opened, I have reason to suppose that the working of this would be successful, and would suggest (if the Government think it worth while) that an officer might be deputed to examine and report on the hill whence the ore was taken.

A gentleman to whom the ore has been shown at once expressed his desire to take steps to work the hill; but before telling him where the ore was found, I consider it my duty to draw the attention of Government to the fact of its existence.

#### Report on the state of the salt market for the third quarter of 1870-71.

From F. B. PRASCOCK, Esq., Officiating Junior Secretary to the Board of Revenue, Lower Provinces, to the Officiating Secretary to the Government of Bengal, Revenue Department,—(No. 120C, dated Fort William, the 17th March 1871.)

I AM directed by the Board of Revenue to submit the following report on the state of the salt market for the third quarter of 1870-71, comprising the months of October, November, and December last.

2. The quantity of Government salt sold at the Presidency under wholesale rowannals, amounted to mds. 2,945, as shown in the margin, giving a monthly average of mds. 982

		Mds.
October	1870	... 525
November	"	... 1,300
December	"	... 1,120
Total		<u>... 2,945</u>

against mds. 1,151 in the preceding quarter. The sales, as was the case in the previous eight quarters, were confined to the Hidgellee stocks, shew a decrease of

mds. 510 as compared with those in the preceding quarter.

3. The sales of Government salt at Pooree, amounted to mds. 4,630 against mds. 2,260 in the preceding quarter, and mds. 31,363 in the corresponding quarter of 1869-70. The increase, as compared with the sales during the previous quarter of the year, is attributable to the public sale held in Pooree in September last, when the larger portion of the entire stock of Pungah salt was sold to the highest bid above the upset price of Rs. 3-8 per maund. For the remaining portion of the salt the highest bid did not reach the limit fixed by the Board.

4. The quantities of excise salt sold in Cuttack, Balasore, Pooree, and the 24-Pergunnahs, from the stocks of the different seasons, and the quantities which remained in store at the close of the quarter, are shewn in the following statement:—

	CUTTACK.		BALASORE			POOREE.	24-PERGUNNAHS.
	MANUFACTURE OF		MANUFACTURE OF			MANUFACTURE OF	MANUFACTURE OF
	1867-68.	1869-70.	1867-68.	1868-69.	1869-70.	1869-70.	1869-70.
Balance at close of last quarter	Mds. Brs.	Mds. Brs.	Mds. Brs.	Mds. Brs.	Mds. Brs.	Mds. Brs.	Mds. Brs.
Surplus	146 10	45,400 32	3,067 15	12,001 31	1,23,539 11	3,17,501 0	16,403 0
<b>Total</b>	<b>146 10</b>	<b>45,400 32</b>	<b>3,067 15</b>	<b>12,001 31</b>	<b>1,23,539 0</b>	<b>3,17,501 0</b>	<b>16,403 0</b>
<b>Debtor</b>							
Quantity sold during the quarter	4,803 0	950 0	1,771 0	10,900 0	28,339 0	5,000 0	
Deficiency or wastage	146 10	303 6	.....	50 93	.....	.....	
<b>Total</b>	<b>146 10</b>	<b>4,802 0</b>	<b>1,312 6</b>	<b>1,771 0</b>	<b>10,319 93</b>	<b>28,280 0</b>	<b>5,000 0</b>
Balance at close of quarter	.....	40,688 11	1,766 10	10,320 31	1,04,189 61	2,80,202 0	10,403 11

From the above it will be seen that the total clearances of excise salt during the quarter amounted to mds. 60,061 against mds. 92,443-2 in the previous quarter, and mds. 40,173 only in the corresponding quarter of 1869-70. It is satisfactory to note that the sales of excise salt in Pooree, where manufacture

Mds. under the excise rules only began during the past season, is steadily increasing, as will be seen from the statement given on the margin.

5. The subjoined statement shews comparatively the total importations into the port of Calcutta, and the total clearances of sea-imported salt during the quarter, and the corresponding quartor of the two preceding years:—

Description of salt.	3RD QUARTER OF 1868-69.		3RD QUARTER OF 1869-70.		3RD QUARTER OF 1870-71.	
	Imported.	Cleared.	Imported.	Cleared.	Imported.	Cleared.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Liverpool Pungah	16,50,000	15,15,000	9,14,586	13,08,412	15,67,810	18,90,429
Foreign Kurkutch	2,35,714	1,57,743	8,53,003	8,55,173	4,14,738	8,06,477
Indian Kurkutch	1,70,351	1,75,767	1,47,149	1,09,443	2,17,140	1,97,008
Ceylon Kurkutch	24,890	18,490	.....	8,250	.....	26,626
<b>Total</b>	<b>30,90,141</b>	<b>19,07,849</b>	<b>14,18,730</b>	<b>18,60,279</b>	<b>31,09,197</b>	<b>18,53,123</b>

6. The following are the details of the Indian Kurkutch salt shewn above:—

From whence imported.	3RD QUARTER OF 1868-69.		3RD QUARTER OF 1869-70.		3RD QUARTER OF 1870-71.	
	Imported.	Cleared.	Imported.	Cleared.	Imported.	Cleared.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Kurkutch	1,64,851	1,59,282	1,18,402	1,62,438	1,46,100	1,31,806
Rouhoy	24,000	12,905	26,461	48,170	40,200	59,493
Malabar	.....	.....	76	.....	.....	.....
Covelong	.....	.....	.....	.....	21,640	.....
Tuticorin	.....	.....	.....	896	.....	1,060
Konore	.....	.....	.....	.....	.....	.....
<b>Total</b>	<b>1,70,351</b>	<b>1,75,767</b>	<b>1,47,143</b>	<b>1,09,544</b>	<b>2,17,140</b>	<b>1,07,098</b>

7. The following table shews the total quantity of sea-imported salt remaining in bond at the close of the quarter as compared with the previous three quarters:—

Where stored.	2nd quarter of 1869-70.	3rd quarter of 1869-70.	4th quarter of 1869-70.	1st quarter of 1870-71.	2nd quarter of 1870-71.	3rd quarter of 1870-71.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Sukna Government golabs	23,82,758	21,74,633	28,09,521	26,67,841	16,84,790	20,07,741
Ditto private golabs	...	...	21,910	48,440	48,440	49,400
Glossary ditto	...	...	...	1,51,687	1,49,611	1,37,811
Singapore ditto	...	...	...	71,369	74,289	60,783
Calcutta ditto	17,109	4,572	30,193	10,150	9,351	1,180
Chittagong Government golabs	1,65,512	1,36,012	8,65,444	3,00,477	9,30,730	9,14,495
Total	25,55,432	23,11,803	32,16,458	31,43,187	20,61,678	25,38,880

8. The following table exhibits the despatches of salt from Calcutta by water and the three railways *via* the several salt pass stations into the interior of the country, both east and west of the river Hooghly, during the quarter under review and the corresponding quarter of the two preceding years:—

Period.	By Dahlgadh.	By Sankrail.	By Gor- khalee.	By Kidder- pore.	By Buli- ghat.	By the East Indian Railway.	By the East- ern Bengal Railway.	By the Cal- cutta and E. E. Railway.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
3rd quarter of 1868-69...	4,90,312	1,01,422	86,700	1,05,233	9,55,830	2,26,363	4,692	70
Ditto 1869-70...	4,67,589	1,15,440	80,061	93,714	8,85,106	2,35,670	12,320	16
Ditto 1870-71...	4,63,963	1,11,906	83,648	91,177	8,70,404	2,81,684	5,647	52

The quantity of salt despatched by the East Indian Railway to stations beyond Buxar, in the quarter under review, amounted to mds. 5,594-10 against mds. 7,041 in the preceding quarter, and mds. 4,292-20 in the corresponding quarter of 1869-70.

9. The shipments of Liverpool salt for the port of Calcutta, according to published market reports, were as follows:—

								Total.
October	...	...	...	...	...	...	...	6,978
November	...	...	...	...	...	...	...	16,784
December	...	...	...	...	...	...	...	17,329
							Total	40,491

No shipments have been reported for Chittagong.

10. The prevailing market prices per hundred maunds of Liverpool and other descriptions of salt at the close of each fortnight during the quarter under report, as compared with those which obtained at the same periods of last year, are shewn in the following statement:—

Description of salt.	Prices on 18th October.		Prices on 31st October.		Prices on 15th November.		Prices on 26th November.		Prices on 15th December.		Prices on 31st December.	
	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Liverpool Pengah	76	60	71	62	71	78	61	73	65	60	64	68
French Karkiach	78	60	79	60	72	58	72	60	60	65	60	60
Jeida ditto	78	74	80	70	78	78	74	76	73	79	78	78
Ceylon ditto	63	43	52	42	58	40	58	40	58	41	60	41
Bonda ditto	43	44	62	40	61	40	60	40	60	40	60	40
Bombay ditto	41	47	48	47	48	46	40	41	48	40	42	37
Madras ditto	46	48	58	46	57	44	58	41	57	41	58	45

11. The following statement exhibits the total quantities of salt that were available for the private export trade at the several depôts in the Madras Presi-

doney on the first day of each of the three months constituting the present quarter, and the corresponding quarter of the year 1868-69 and 1869-70.

Month.	1868-69	1869-70.	1870-71.
	Mds.	Mds.	Mds.
October	8,53,428	8,09,882	6,78,950
November	9,05,526	7,56,050	6,53,963
December	9,57,108	7,49,780	6,53,963

12. The following statement shews the quantities of sea-imported salt admitted into bond, and cleared from bond at Chittagong, ship-board and during the quarter under review and the corresponding quarter of 1869-70:—

Description of salt.	ADMITTED INTO BOND.		CLEARANCES.	
	1869-70.		1870-71.	
	Mds.	Mds.	Mds.	Mds.
Liverpool Pungah	23,888	31,742	43,983	66,274
Foreign disto				406
Scinde Kurkutch	8,450	...	6,408	4,239
Total	27,337	31,742	50,391	60,919

No transactions in sea-imported salt have been reported for the quarter from any of the Orissa ports.

#### Report on the state of the salt market for the fourth quarter of 1870-71.

From F. B. PEACOCK, Esq., Officiating Junior Secretary to the Board of Revenue, Lower Provinces, to the Officiating Secretary to the Government of Bengal, Revenue Department,—(No. 245C, dated Fort William, the 3rd June 1871.)

I AM directed by the member in charge to submit the following report on the state of the salt market for the fourth quarter of 1870-71, comprising the months of January, February, and March last.

2. The quantity of Government salt sold at the Presidency under wholesale rowannahs amounted to mds. 2,885, as shewn on the margin, giving a monthly average of mds. 962 against mds. 982 in the preceding quarter. Of this quantity mds. 100 represented salt in the Sulken golabs, and the remainder (mds. 2,785) represented the clearances from the Hidgeljee stocks.

3. The sales of Government salt at Pooree amounted to mds. 2,132 against mds. 4,630 in the preceding quarter, and mds. 7,089 in the corresponding quarter of 1869-70. The falling off in the clearances during the quarter under review, may be attributed partly to ordinary fluctuations,—there having been an increase in the clearances during the third quarter as compared with those in the second quarter,—and partly also to the fact that this salt, having now been for some years in store, has somewhat deteriorated, and is consequently not so much sought after as the fresh manufactured excise salt. It is, moreover, entirely Pungah salt, which is not now in so much demand as Kurkutch.

4. The quantities of excise salt sold in Cuttack, Balasore, Pooree, and the 24-Pergannahs, from the stocks of the different seasons, and the quantities

which remained in store at the close of the quarter, are shewn in the following statement:—

CUTTACK.		BALASORE.				POOREE.		PENGUINNAH.	
MANUFACTURE OF		MANUFACTURE OF				MANUFACTURE OF		MANUFACTURE OF	
1869-70.	1870-71.	1869-70.	1869-70.	1869-70.	1870-71.	1869-70.	1869-70.	1870-71.	1870-71.
Mds. Srs.	Mds. Srs.	Mds. Srs.	Mds. Srs.	Mds. Srs.	Mds. Srs.	Mds. Srs.	Mds. Srs.	Mds. Srs.	Mds. Srs.
Balance at close of last quarter ...	10,086 32	1,755 10	10,320 21	1,64,188 02	.....	2,93,802 3	10,403 0	.....	10,739 10
Manufactured during the quarter ...	22,373 10	.....	.....	.....	88,820 30	.....	.....	.....	10,739 10
Total ...	10,086 32	22,373 10	1,755 10	10,320 21	1,64,188 02	88,820 30	9,85,012 3	10,403 0	10,739 10
PRODUCT.									
Quantity sold during the quarter ...	957 0	.....	1,000 0	1,955 0	24,234 0	.....	35,977 0	7,000 0	.....
Wastage ...	.....	.....	.....	.....	231 20%	.....	.....	.....	.....
Total ...	957 0	.....	1,000 0	1,955 0	24,465 20%	.....	35,977 0	7,000 0	.....
Balance at close of quarter ...	98,731 82	22,373 10	755 10	8,086 21	79,723 10 <sup>1/4</sup>	68,820 30	24,175 3	8,403 0	10,739 10

From the above it will be seen that the total clearances of excise salt during the quarter amounted to mds. 71,123 against mds. 60,061 in the previous quarter, and mds. 20,814 in the corresponding quarter of 1869-70. It is satisfactory to notice the general increase in the sales of excise manufactured salt, in Pooree especially, where the manufacture only commenced last year. The sales of last quarter have been as follows:—

	Mds.
2nd half of June 1870, when manufacture begun	... 9,702
2nd quarter of 1870-71	... 47,575
3rd ditto	... 28,239
4th ditto	... 35,977

The above statement shews that this industry has as yet not been materially, if at all, affected by the importation of Ganjam salt, a result which was anticipated by the manufacturers in a petition recently submitted to the Board by the Commissioner of Orissa, and on which the member in charge reported in my letter No. 226C of 17th ultimo.

5. The subjoined statement shews comparatively the total importations into the port of Calcutta, and the total clearances of sea-imported salt during the quarter, and the corresponding quarter of the two preceding years—

Description of salt.	4TH QUARTER OF 1868-69.		4TH QUARTER OF 1869-70.		4TH QUARTER OF 1870-71.	
	Imported.	Cleared.	Imported.	Cleared.	Imported.	Cleared.
Liverpool Pangab	19,00,400	11,97,964	21,65,769	14,51,460	10,40,175	16,04,401
Foreign Kurkutch	81,410	68,010	97,632	68,376	70,803	1,40,703
Indian Ditto	5,19,176	1,98,682	8,28,711	2,07,842	2,10,700	2,09,592
Ceylon Ditto	.....	9,900	.....	6,448	.....	13,550
Total	23,06,985	14,78,936	25,67,965	17,64,126	13,91,778	18,07,819

6. The following are the details of the Indian Kurkutch salt shewn above:—

From whence imported.	4TH QUARTER OF 1868-69.		4TH QUARTER OF 1869-70.		4TH QUARTER OF 1870-71.	
	Imported.	Cleared.	Imported.	Cleared.	Imported.	Cleared.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Kurrachee	43,180	...	1,02,094	4,850	...	1,400
Bombay	1,00,500	1,28,456	1,61,988	1,11,660	2,10,700	1,43,618
Madras	28,200	65,080	16,140	63,838	...	53,064
Ennore	...	...	...	4,150	...	12,570
Gowelong	57,320	...	49,790	131	...	...
Tuticorin	...	...	...	...	...	...
Total	3,10,170	1,02,663	3,23,711	2,07,812	2,10,700	2,00,693

7. The following table shews the total quantity of sea-imported salt remaining in bond at the close of the quarter as compared with the previous three quarters:—

Where stored.	1st quarter of	2nd quarter of	3rd quarter of	4th quarter of
	1870-71.	1870-71.	1870-71.	1870-71.
	Mds.	Mds.	Mds.	Mds.
Bellary Government godhuis	26,47,841	15,64,298	20,67,741	17,80,768
Ditto private godhuis	44,400	44,400	44,400	24,236
Ghoserry ditto	1,62,637	1,12,811	1,37,811	1,30,988
Seebpore ditto	74,282	71,282	69,282	57,076
Calcutta ditto	10,150	2,551	1,150	1,150
Chittagong Government godhuis	3,00,877	2,30,730	2,14,196	1,75,081
Total	31,43,187	26,01,573	25,38,880	21,48,587

8. The following table exhibits the despatches of salt from Calcutta by water and the three railways, *viz* the several salt pass stations into the interior of the country, both east and west of the river Hooghly, during the quarter under review, and the corresponding quarter of the two preceding years:—

Period.	Via	Via	Via	Via	Via	By the East	By the East-	By the Cal-
	Ballyharpur.	Sankrail.	Gewakhallee.	Kidder-	Bally-	Indian	Bengal	cutta and S.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Fourth quarter of 1868-69...	3,62,690	1,10,635	94,710	80,067	9,41,341	2,38,017	5,286	424
Ditto 1869-70 ...	3,57,470	1,50,421	1,35,511	70,142	10,32,583	3,10,008	6,868	11
Ditto 1870-71 ...	3,94,029	1,48,157	1,19,678	68,923	8,60,980	2,88,968	5,747	14

The quantity of salt despatched by the East Indian Railway to stations beyond Buxar, *i.e.*, to the north-west, in the quarter under review, amounted to mds. 3,950-10 against mds. 5,594-10 in the preceding quarter, and mds. 6,126-30 in the corresponding quarter of the previous year. It may be convenient to explain, with reference to the above table, that salt for places lying north-west and north-east of Calcutta is conveyed *via* Bally, Kidderpore, and Balliaghata; by the former route principally in the rains, as at other times the river is too shallow to admit of large boats getting up it. In the dry season therefore the usual route taken by salt, either for north-west or north-east districts, is the Soonderbuns *via* Kidderpore or Balliaghata. Salt for Midnapore and the south-west is conveyed to its destination *via* Sankrail and Gewakhallee. Salt for eastern districts is conveyed either by the Eastern Bengal Railway, or by the Soonderbuns *via* Kidderpore and Balliaghata; that for districts lying west of Calcutta goes either by the East Indian Railway or by river *via* Bally.

9. The shipments of Liverpool salt for the port of Calcutta, according to published market reports, were as follows:—

	Mds.
January	21,146
February	29,572
March	15,569
Total	<u>66,287</u>

No shipments have been reported for Chittagong.

10. The prevailing market prices per hundred maunds of Liverpool and other descriptions of salt at the close of each fortnight during the quarter under report, as compared with those which obtained at the same periods of last year, are shewn in the following statement:—

Description of salt.	Prices on 16th January.		Prices on 31st January.		Prices on 14th February.		Prices on 28th February.		Prices on 15th March.		Prices on 31st March.	
	1870.		1871.		1870.		1871.		1870.		1871.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Liverpool Pungah	60	72	62	72	60	60	64	64	64	64	60	60
French Kurkutah	70	63	70	63	70	60	66	59	60	58	66	61
Jeddah ditto	85	75	85	85	86	84	86	84	86	84	86	84
Ceylon ditto	40	48	56	44	56	42	52	43	52	40	52	48
Seinde ditto	60	38	60	38	60	38	50	38	50	38	50	35
Bombay ditto	42	37	42	34	36	36	42	37	37	35	35	38
Madras ditto	58	46	64	55	54	46	64	45	54	48	52	48

11. The following statement exhibits the total quantities of salt that were available for the private export trade at the several depôts in the Madras Presidency on the first day of each of the three months constituting the present quarter and the corresponding quarters of 1868-69 and 1869-70:—

	Month.	1868-69.		1869-70.		1870-71.	
		1868-69.	1869-70.	1869-70.	1870-71.	1868-69.	1870-71.
January	...	...	...	9,42,568	7,18,150	6,03,962	
February	...	...	...	8,25,597	8,18,150	6,03,962	
March	...	...	...	8,64,210	7,83,150	6,03,962	

12. The following statement shews the quantities of sea-imported salt admitted into bond and cleared from bond and ship-board at Chittagong during the quarter under review, and the corresponding quarter of 1869-70. No transactions in sea-imported salt have been reported for the quarter from any of the Orissa ports:—

DESCRIPTION OF SALT.	ADMITTED INTO BOND.		CLEARANCES.	
	Fourth quarter of 1868-70.	Fourth quarter of 1870-71.	Fourth quarter of 1868-70.	Fourth quarter of 1870-71.
Liverpool Pungah	2,60,508	31,525	67,829	74,385
Madras Kurkutah	.....	.....	8,025	4,240
Bremen Pungah	.....	.....	.....	332
	2,60,508	31,525	78,854	78,057

## Annual Report on Cinchona Cultivation.

From C. B. CLARKE, Esq., M.A., Officiating Superintendent, Botanical Gardens, and in charge of Cinchona Cultivation in Bengal, to the Secretary to the Government of Bengal,— (No. 209, dated Botanical Gardens, Calcutta, the 26th April 1871.)

I now leave to submit the annual report of the cinchona plantations near Darjeeling for the year endgd 31st March 1871, in which is included also the half-yearly report for the six months ended 31st March 1871.

2. The cinchona plantations have lost, by early death, Dr. T. Anderson, who introduced the cultivation into Bengal, and under whose superintendence the present successful growing of cinchona has been brought about. In the opinion of his medical advisers, the unsparing zeal with which Dr. T. Anderson exposed himself personally in the steaming valleys of Sikkim cost him his life.

Dr. T. Anderson commenced the propagation of cinchona plants in Sikkim in 1862, but for several years little progress was made. Sinchul, Lehong, Upper Rungbee, and Rungy-roong, were localities successively tried and found successively not well suited to the culture. The young stock was very unhealthy, and Mr. Mann informs me he then had to throw away young plants by thousands. Dr. T. Anderson also received, privately, the opinion of a very high authority, that cinchona could never be profitably grown in Sikkim.

Dr. T. Anderson, undaunted by these discouragements, and by the still more disheartening doubts which some of his best gardeners felt, applied himself steadily to the overcoming, one by one, of the difficulties experienced. And by 1867-68 these difficulties had been so far overcome, that he felt no doubt of economic success in the growth of *C. succirubra* and *C. calisaya*. When Dr. T. Anderson left for England in the spring of 1869, he left his successors merely to pursue in cinchona culture the plans of proceeding which he had brought into successful operation.

An official report is hardly the proper place to enlarge on the private loss sustained by the death of one who died deeply regretted by every one who knew him, but I may express here my opinion of the magnitude of the loss which science and this country have sustained by the death in early prime of a botanist, who simply said that after nine years' continued study of Indian plants, he felt that he might now begin to publish with satisfaction to himself.

3. The year have been unusually wet, the rainfall being about 40 inches in excess of the average amount. The cold weather six months, ended 31st March 1871, have also been unusually moist, and growth, shewn by the measured plants during the cold weather, is unusually large in consequence.

4. No improvement in the plantations of *C. officinalis* took place during the year: the number of plants returned in the table appended is but 440,000, which must be understood to mean that no fresh plants have been planted out since the last report, and that the number of deaths has not been counted. In accordance with the recommendation in paragraph 2 of the report of the cinchona commission, the *C. officinalis* is now being cut down. There is every reason to suppose that Dr. T. Anderson was right in attributing the failure of *C. officinalis* at Rungbee to the too great moisture, for on the drier slopes of Tukvar, north of Darjeeling, the president of the cinchona commission found a small experimental plantation of *C. officinalis* much superior to any part of the Rungbee plantations, and shewing promise of making at least small trees.

5. The number of cinchona plants in permanent plantations was as under:—

		<i>C. succirubra</i>	<i>C. officinalis</i>	<i>C. calisaya</i>
31st March 1870	...	1,055,100	400,800	4,000
30th September 1870	...	1,219,715	440,000	24,860
31st March 1871	...	1,233,715	440,000	23,000
Increase in last six months		14,000		8,140

Of *C. succirubra* there are now also 480,000 young plants (mainly seedlings) in the nursery beds. I may explain once more that the nature of the ground at Rungbee does not admit uniform planting. Where the ground admits, the plants are planted 6 feet by 6, and when 1,200 have been put out, this is reckoned an acre of cinchona, a further allowance of 20 per cent. being made for filling up of vacancies. The vacancies are filled up once only, in the year succeeding that of planting.

6. In accordance with instructions received from the supreme Government, it was attempted to raise 500,000 plants in the nursery beds for planting out during the present season, and the jungle has been burnt on sufficient land to hold the 480,000 that have been raised. It has been observed, however, that, as in the case of most other trees, the chief point to secure in planting out young cinchonas is that they shall start well; hence those

parts of the plantations planted early in the season are found generally very superior to the autumn planted portions. It is therefore proposed to plant out as many of the 480,000 young succirubras as can be got out before the end of July, and to reserve the rest in the nursery beds for planting out in the early spring of 1872.

7. The *C. calisaya* is planted now at the same distance apart as *C. succirubra*, viz. 6 feet by 6; the early planting was 5 feet by 5, which was certainly too close. The number of "acres," therefore, of *C. calisaya* will be about 30 in permanent plantation; and this will be increased to about 80 during the present season.

The harvest of *C. calisaya* seed is good, and will suffice for a large extension of *C. calisaya* by seedlings next year.

I have to thank Herr Von Gorkom, director of the Government cinchona plantations of Java, for several valuable consignments of seed of *C. calisaya*, of which nearly every single seed germinated.

The plantation has been able to respond to all applications for seed of *C. succirubra* and of *C. officinalis*, but is likely for another year to have less *C. calisaya* seed than is wanted for its own requirements.

8. The general growth of the plantations of *C. succirubra* and of *C. calisaya* has been good during the year, and their present condition satisfactory. The number of deaths, except of plants during their first season out, which have been planted in swampy places, has been exceedingly small. Cinchonas planted where the water stagnates never grow at all, as Mr. McIvor has observed; and some members of the cinchona commission have suggested that a little more selection in regard to site of plantation might be advantageously employed. The ground for planting is cleared of jungle by burning, and it is very difficult to foresee that cinchona will not grow in any particular spot; for, however wet it may be, provided the water does not hang, cinchona may grow excellently; and on the whole the head gardener inclines to uniform planting, and filling up vacancies but once as has been for some time the practice.

9. The important portion of the plantation is now Rishap, and I have prepared the subjoined table to show the growth of the measured plants there of the two species *C. succirubra* and *C. calisaya*.

Rishap.—Altitude, 2,000 feet. Planted 29th March 1867.

		Height in inches on 1st April 1870.	Height in inches on 1st October 1870.	Height in inches on 1st April 1871.	Growth for six months end- ing 1st April 1871.	Growth for twelve months end- ing 1st April 1871.
<i>C. Succirubra.</i>	No. 1	...	129	159	20	50
Ditto	2	...	145	172	18	45
Ditto	3	...	129	161	20	61
Ditto	4	...	146	170	24	60
Ditto	5	...	158	180	22	41
Ditto	6	...	154	182	28	59
Ditto	7	...	105	133	28	49
Ditto	8	...	162	176	14	54
Ditto	9	...	135	144	16	25
Ditto	10	...	114	119	9	14
				Total	...	458
<i>C. Calisaya.</i>	No. 1	...	136	180	4	48
Ditto	2	...	137	166	19	47
Ditto	3	...	136	164	13	41
Ditto	4	...	126	142	17	38
Ditto	5	...	129	146	18	29
Ditto	6	...	138	162	20	44
Ditto	7	...	138	160	22	54
Ditto	8	...	130	159	14	44
Ditto	9	...	129	156	13	40
Ditto	10	...	138	168	16	45
				Total	...	426

10. This gives an average growth per succirubra tree of 45.8 inches, and per calisaya tree of 42.6 inches, during their fourth year out. Mr. McIvor describes the growth of the *C. calisaya* at Rishap as splendid during the first two years, and in some cases during the first three years. But I submit that these figures fully justify the unanimous statement of the gardeners at Rungbec, that the rate of growth during the first two or three years is subsequently maintained, or nearly so.

11. There is a numbered stick at the base of each measured tree, and as the height and continued growth of these trees is a fact which cannot be got over, I shall mention that they were measured by Mr. Kennedy, the gardener at Rishap; that the measurements have been verified by the head gardener in charge; and that further, I measured these trees myself.

early in March, and am therefore able to state that the measurements sent down cannot possibly be materially in error.

12. But it has been asserted to me that the sticks at the base of the measured trees have been shifted. If this were so, it would deprive the measurements of all value, unless as to the "exceptional" growth of trees at Rishap, which is not a disputed fact.

I must however be permitted to show in detail that the sticks cannot (except in one instance, viz. *C. calisaya* No. 2) have been shifted since the plants were put out.

13. First, I can state of my own knowledge that the sticks have not been shifted since August 1869, when I first saw the plantation; and secondly, the gardeners on the plantation state positively that no stick has been shifted since Mr. Kennedy (the gardener now in charge at Rishap) came there, upwards of three years ago.

14. The circumstantial evidence that these sticks (except *C. calisaya* No. 2) have never been shifted, is exceedingly strong.

First, as to the ten *C. succirubra* sticks. The first eight sticks are placed regularly against one row of plants near the gardener's bungalow, and the sticks Nos. 9 and 10 are placed opposite two plants in the next adjoining row. It is tolerably clear that the gardener placed the sticks against a good row of plants near his bungalow, convenient for close observation. He selected as good a row as he could find close to the bungalow, but he might have selected a far better row if he troubled to go a few yards down the hill. As to sticks Nos. 9 and 10, they were placed in the next adjoining row, and certainly not against the two best trees. Indeed, No. 10 is about the worst tree in the row, and has (Mr. Kennedy says) always been so; and it was probably selected because it was the tree next the path and easy to get at to measure.

The trees being in rows, no one of the first eight sticks could have been shifted unless all were, which is clearly impossible; and as to sticks Nos. 9 and 10, assuming that they have been shifted, they must have been shifted disadvantageously to the measurement.

There remains in addition to these arguments Mr. Kennedy's very plain remark, that if he was to shift the sticks to one of the best rows of trees, he could show a very different admeasurement, as several trees in four years out have passed twenty-five feet, and very many have passed twenty feet.

15. Next we come to the ten *C. calisaya* plants. In this case one row of eight trees is taken, in which the sticks proceed regularly from one to eight, and sticks Nos. 9 and 10 are placed regularly in the next row. But the stick No. 2 has been evidently removed at some time from the second tree, and now stands at the base of the eleventh tree.

A very slight examination of the second tree shows that early in life it lost its leader, which was doubtless the reason that the stick was shifted; but the tree No. 2 is now about as large as the others. The stick No. 2 was doubtless shifted very shortly after the plants were put out, and if it were put back to plant No. 2, the growth of the *C. calisaya* would stand as nearly as possible the same. The biggest *C. calisaya* trees are in an adjoining row to the measured row.

16. I should add that these measurements show less than the fair growth of the trees, because in order to avoid all cavil about shifting the sticks, or about cutting out the bad trees, and leaving only the successful ones to be measured, the lines of the measured trees have not been thinned, so that the trees stand too thickly to show what the growth is in the plantation after thinning out. The growth in the small patches of plantation thinned out in the cold weather, 1869-70, is certainly greater than that shown by the measured trees.

17. The average growth of the measured plants is a fair index of what the cinchona trees are doing at the level 2,000 feet, and below it; but the growth is steadily less as we ascend the hill, and in several parts of Rishap, at 3,500 feet, is comparatively very small. A considerable portion of the 1868 and 1869 plantations was planted at these higher levels, and will come into bark-bearing much later than the lower level trees. A large area of 1868 planting will not be fit for thinning before Christmas 1872-73, and this will so far diminish the amount of bark which I calculated on from next season's thinning. On the other hand, the Teesta plantations, which were so seriously damaged by fire and deer that they were reported in June 1869, no longer worth report, have recovered wonderfully, and now exhibit patches which some members of the cinchona commission thought the finest in the whole Rungbee plantation. These trees are growing at an elevation of from 450 to 900 feet above the sea, and are covered with lichens. The policy at Rungbee has been for some time to push the *C. succirubra* high up, and reserve the low level ground for *C. calisaya*; but I do not now feel at all sure that this will not have to be altered, and that the low level ground lately handed over to the forest department may not hereafter be asked for again for cinchona. The ground is, however, much less saturated by springs and swamps at the upper levels, and though the growth is slower, the plantation stands more uniformly, less in patches, there than below.

18. With the continued growth of the older trees (i.e. those which have entered at least on their fourth year of growth out in the plantation), I feel no apprehension whatever that they may early die out; and as regards the opinion that 100,000 of such trees will die out within the current year, I do not think it necessary to lengthen this report by a particular attempt to refute it by argument, the time being so very short; and if such a calamity be impending, any means of obviating it so impossible. Should it occur, it will be a most startling surprise both to myself and every gardener about the place.

19. A plant appeared sporadically among the *C. succirubra* plantations raised from Ceylon seed, which early attracted the attention of Dr. T. Anderson. In its powerful habit of growth and general appearance it much resembled *C. succirubra*, but yet clearly was not exactly that species. It was supposed to be a hybrid, and became known at Rungbee as the hybrid, to distinguish it from the various other casual hybrids. As the plants of it grew bigger, the head gardener was able to satisfy himself that it was no hybrid. Last year, at Dr. T. Anderson's suggestion, the bark of one tree, two years old, was sent home for analysis to Mr. Howard, whose report was most favorable: the quantities of total alkaloids, and of crystallizable quinine, being both rather higher than in our *C. culisaya* of the same age. As far as can be judged from the dozen specimens of this plant about the plantation, it seems a hardier plant even than *C. succirubra*, and to flourish both higher up and lower down than *C. succirubra* will. I accordingly instructed the head gardener in charge to get up some stock of it, and there are now 1,000 stock plants of this species, so that it will be possible to propagate it and extend its cultivation very rapidly.

20. I received about Christmas two cases of cinchona pitayensis, which were sent out by the Secretary of State from England in charge of Dr. Simpson, now civil surgeon of Patna, and which arrived in good condition. It is very difficult to judge of the species of cinchona while young; but this, nevertheless, carried such marked characters, that the head gardener became at once convinced that our unknown so-called hybrid was no other than *cinchona pitayensis*.

When Mr. Melvur, however, arrived at the Rungbee plantations in February last, he at once recognized our hybrid as *C. uritasinga*, with which the analysis of the bark well agrees; but shortly after arrived Mr. Broughton, who doubted very much whether the plant could be *C. uritasinga*.

In the absence of flowers and fruit, no botanical determination can be attempted, and the similarity of the leaves of different species of young plants, as above stated, is so close, that the identification of this "hybrid" must still remain a problem to be solved. It is, however, doubtless destined to prove one of the most valuable species at Rungbee.

21. During the cold weather 1870-71 about 12,500lb of dry *succirubra* bark have been obtained from the thinning of the plantations. Of this, 5,000lb of the thickest bark have been sent for sale in the London market, and the remaining 7,500lb have been boiled at Rungbee. Owing to the imperfect working of the screw-press used in the manufacture, more bark could not have been cut unless we had been prepared to sacrifice all the thinner bark, which (being worth only about sixpence per pound) would scarcely pay for transit to England. To take three trees out of four (as was originally proposed), would have given us about 300lb of bark per 1,200 trees, which was the estimate I formerly put forward. As, however, our means of working the bark were limited, only every alternate rank of trees was thinned out, and a considerable area of the 1867 planting was not touched at all. I am not sure that this curtailment of the thinning will be any loss ultimately. In this estimate of 300lb per acre of thinning at the end of the fourth season out, it must be observed, however, that only 150lb of the best is worth 1s. 9d. per pound in London, the remainder is barely worth working upon the spot. The alteration proposed by the cinchona commission is that next year a portion of the prime bark should be worked up with the thinner bark at Rungbee, in order to give the process of manufacture a fair chance of proving remunerative.

22. After visiting the manufactory of cinchona bark at the Government Nilgiri plantations, by the orders of the Bengal Government in April 1870, I came to the opinion that Mr. Broughton's method of preparing the alkaloids from red bark was an excellent one, and I was authorized by Government to introduce this process of manufacture experimentally at Rungbee. A sum of Rs. 11,250, for the expense of machinery, was placed at my disposal for the year ended 31st March 1871.

23. The machinery which have got under this sanction consists mainly of the following items:

	Rs. As. P.
Boilers, cones, and presses made at the Government dockyard, and charged for merely by a book credit there. Grand total expended up to 31st March 1871	5,111 0 0
Further expenditure estimated requisite to complete the machinery now in hand	400 0 0
A coffey fractional still, with retort, cost (in England)	1,043 7 6
Scales and a hot filter, obtained from Messrs. T. E. Thomson and Co.	154 10 0
Carriage of machinery, and smaller expenses	490 8 0
Total Rs.	7,199 11 6

I am glad to believe that the whole of this machinery (except the hot filter) is well adapted for the manufacture in question.

The only serious difficulty in carrying out the work of manufacture has been with the press. A large part of the expenditure at the dockyard, viz. about Rs. 2,000, has been laid out on a hydraulic press, now ready for despatch to Rungbee. The engineer at the dockyard has taken great pains with this press, which was seen in an advanced state by Mr. Broughton, and I am sanguine that it will answer the expectations formed of it.

24. The outlay on house accommodation for the manufacture has been very small, as bamboo sheds are inexpensively raised by the hill men. In the distilling house there is much alcohol and many large fires, and I have lately replaced this shed by a brick building.

25. The stripping of bark can only be carried on advantageously in the autumn and spring, as during the rains the bark produces a much smaller percentage of alkaloid. During the working season, now nearly past, about 7,500lb (dry) of the twig bark has been boiled down, and the first (lime) precipitate formed therefrom. The first sample of alkaloid sent down from Rungbee, made by the two gardeners (Messrs. Gammie and Biermann) and myself, was tried experimentally in the Calcutta hospitals, and found by Drs. Brougham and Macaulay excellent, and apparently of equal therapeutic value with the commercial sulphate of quinine. The second sample, of alkaloid manufactured at Runghee, was also found by analysis to be good. The third sample, sent down to the medical store-keeper, Calcutta, has been discovered to contain 10.5 per cent. of metallic copper, and the cinchona commission recommended that the two gardeners in charge should cease working, and the distillation process has been accordingly stopped for the present. It was not understood to be possible that copper could appear in the resulting alkaloid, except in minute quantity; and even now that this serious accident has occurred, Mr. Broughton states (in the cinchona commission proceedings) that he can hardly conceive how it did occur.

I wish merely to remark here that in my opinion the occurrence of this accident has nothing whatever to do with the merits of Mr. Broughton's process. That process is the only one before us for obtaining the alkaloid economically from red bark, except the suggestion of steeping the bark cold; and I think it extremely improbable that the latter plan will eventually prove successful, since Mr. Broughton has discarded it after giving it what he considers a satisfactory trial.

26. The cost of working 1,000lb of wet bark by Mr. Broughton's process at Rungbee has been reduced to Rs. 25, exclusive of cost of European superintendence. Great credit is due to Messrs. Gammie and Biermann for their ingenuity and perseverance in bringing the cost down so low. Mr. Gammie is particularly successful in executive work in any department to which he puts his hand, and Mr. Biermann is a man of superior education, as well as naturally clear headed. It is considered by the cinchona commission that if the expense of carrying out Mr. Broughton's process of manufacture proves no greater than it has in their hands, no other process can possibly compete with it at Runghee; and the cinchona commission have accordingly recommended that this process of manufacture be employed next season. It is perhaps hardly necessary to explain that in conducting the work so as to give no copper in the result, a rather less cost is incurred.

27. The lime precipitate may be kept uninjured any length of time, and nearly the whole precipitate from the season's working remains thus now stored at Rungbee. Also none of the proceeds of sale of bark have yet been actually received, partly owing to the death of Dr. T. Anderson, to whose agents the earlier small consignments took place. I did not budget for any receipts from the plantation for the year ended 31st March 1871, but I estimate that nearly Rs. 8,000 worth of bark had been despatched from the plantation by that date.

28. The cinchona budget grant for the year ended 31st March 1871 was Rs. 64,741. The total amount drawn was Rs. 53,746.2-1, exclusive of the book credit of Rs. 5,111 for machinery. Subtracting from this Rs. 53,746.2-1, the sums also actually paid out for machinery, there remains Rs. 51,681.15-2 as the actual current expenditure at Runghee for the year. There is included in this the cost of the manufacture, in buildings, superintendence, labor, wood, charcoal, &c., and also the cost of cutting and stripping bark, drying, packing, and despatching it. There is also included a very considerable miscellaneous expenditure, as on fibrous plants, in collecting seeds, orchids, and ferns, and packing and despatching them. All these calls on the cinchona plantation, though apparently trifling where labor is cheap, really cost a good deal, as they require the supervision of a European gardener. These considerations must not be overlooked, or the cost of the Government plantations may appear too high as compared with that of private planting.

29. The plantation of the Darjeeling Cinchona Association at Pomong, which adjoins the Government Rungbee plantations, has been considerably extending its operations, and by the end of this spring there may be 1,000 acres of *C. succirubra* on the Pomong plantation. The course taken by the directors of Pomong lends a strong support to the belief that cinchona will prove economically successful in Sikkim within a very limited time.

## Meteorological Telegraphic Report for the period 18th to 24th June 1871.

STATION	Date.	Hour.	Barometer reduced to 32°.	Barometer reduced to sea-level.	THERMOMETER.		Humid- ity Sat. = 100.	WIND.		Rain.	Clouds.	Weather initials.	
					Dry.	Wet.		Direction.	Velocity.				
CALCUTTA.	June 18th	10	29.560	29.574	85.8	80.4	77	S by W	...	0.01	C		
	16	29.513	29.500	89.4	82.5	71	S by W	...	...	...	K		
	19th	10	29.503	29.511	80.5	81.0	77	W S W	...	...	K		
	16	29.497	29.500	80.7	80.7	76	S by W	...	...	...	K		
	20th	10	29.484	29.503	83.2	81.7	81	W N W	...	...	S		
	16	29.495	29.493	88.0	83.0	80	E by S	...	...	...	S, K		
	21st	10	29.487	29.476	84.8	80.7	83	E by S	...	...	S		
	16	29.470	29.398	87.0	82.0	74	S S E	...	0.04	...	...	Scuds from E by S.	
	22nd	10	29.451	29.472	84.0	80.7	87	S E E	...	0.20	...	...	o
	16	29.440	29.367	82.0	81.8	91	S S E	...	0.55	...	...	o, d	
	23rd	10	29.456	29.473	80.9	81.5	81	E S E	...	0.27	K, S		
	16	29.474	29.302	81.0	81.5	89	S E	...	0.35	...	o		
	24th	10	29.426	29.511	82.6	81.0	83	S E	...	0.48	...	o	
	16	29.430	29.405	81.6	81.0	87	S	...	0.60	...	o		
RAFNO INLAND.	18th	10	29.583	29.580	85	82	87	S W	18.8*	...	N	b	
	16	29.601	29.510	89	84	80	S S W	18.8*	...	C, K	b		
	19th	10	29.604	29.610	88	83	80	S S E	17.6*	...	N, N	b, m	
	16	29.513	29.510	84	81	83	S E	12.4*	...	N, N	b, m		
	20th	10	29.513	29.513	81	82	91	E S E	0.0*	...	N, N	o, m	
	16	29.416	29.423	87	85	81	E S E	0.8*	0.10	N, N	o, u, m		
	21st	10	29.440	29.453	87	83	83	E S E	0.9*	...	N, N	b, m	
	16	29.376	29.389	87	82	79	E E E	17.7*	...	N, N	b, m		
	22nd	10	29.407	29.418	86	83	87	E E	12.8*	0.20	N, N	d, o	
	16	29.323	29.323	86	82	83	E E E	26.2*	0.30	C, N	b, m, u, g		
	23rd	10	29.435	29.411	86	84	83	E E	15.8*	0.40	N, N	b, m, n	
	16	29.350	29.350	86	83	87	R E by E	18.0*	0.10	N	o, d, n		
	24th	10	29.315	29.521	85	82	87	S S E	14.3*	0.10	N	o, i, n	
	16	29.156	29.449	84	82	91	S S W	12.8*	0.10	N	o, i, n		
CHITTAGONG.	18th	10	29.582	29.694	81	79	91	E S E	7.4*	0.60	N	d, g	
	16	29.494	29.603	84	80	80	W	9.8*	0.80	K, S	b		
	19th	10	29.563	29.606	82	79	87	S E	8.8*	0.80	K, S	b, v	
	16	29.457	29.506	82	79	87	S W	13.4*	...	...	b, v		
	20th	10	29.474	29.583	85	80	79	E	3.0*	1.80	C, S	...	
	16	29.384	29.493	84	80	89	S	10.1*	0.10	K, E, S	b, v		
	21st	10	29.472	29.541	85	80	79	E	4.3*	0.10	K, K, S	c	
	16	29.366	29.471	87	82	79	S W	0.4*	...	K, K, S	b		
	22nd	10	29.494	29.604	85	79	71	E S E	4.4*	0.10	K, S	b, v	
	16	29.499	29.583	85	79	75	E S E	12.8*	...	K, S	b		
	23rd	10	29.519	29.628	87	80	78	E	8.0*	...	K, K, S	b	
	16	29.419	29.516	86	80	78	E S E	11.1*	0.10	K, K, S	c		
	24th	10	29.559	29.688	87	80	79	E S E	6.4*	...	K, C, S	b	
	16	29.430	29.568	86	80	78	E S E	16.4*	...	K, S	b		
	25th	10	29.744	29.774	92	74	90	W S W	19*	...	...	b, v	
	16	29.630	29.718	87	78	68	E S E	15*	...	...	b, v		
	26th	10	29.753	29.788	82	75	40	S W by W	11*	...	...	b, v	
	16	29.651	29.684	86	77	14	E S E	18*	...	...	b, v		
	27th	10	29.774	29.708	91	84	73	W S W	10*	0.01	...	b, v	
	16	29.663	29.693	86	78	68	S E	11*	...	...	b, v		
	28th	10	29.746	29.776	93	78	40	S W	15*	...	...	b, v	
	16	29.629	29.719	80	78	85	S S S	0*	0.10	...	b, v		
	29th	10	29.877	29.707	90	75	47	S W	16*	0.01	...	b, v	
	16	29.551	29.581	90	77	48	N N W	0*	...	...	b, v		
	30th	10	29.641	29.711	91	75	44	S W	10*	0.02	...	c	
	16	29.677	29.707	97	76	80	W by S	12*	...	...	c		
	31st	10	29.709	29.728	91	71	33	S W	17*	...	...	c	
	16	29.690	29.690	90	74	27	S W	17*	...	...	c		
	17th	10	29.477	29.589	86	78	64	W S W	4.5*	...	N	c, fair	
	16	29.443	29.607	87	77	61	S W	7.0*	...	N, C	o		
	18th	10	29.645	29.627	89	78	52	W	6.1*	...	N, C		
	16	29.444	29.625	92	79	51	W	9.0*	...	ES			
	19th	10	29.603	29.613	90	77	53	W S W	3.0*	...	N	Fair.	
	16	29.449	29.531	89	80	65	W N W	5.7*	...	C, K, S	c		
	20th	10	29.493	29.613	90	81	68	W N W	8.8*	...	N, C	Fair, t, l	
	16	29.433	29.415	94	69	61	W N W	0.0*	...	N, E, S	w, r		
	21st	10	29.807	29.410	87	89	79	N E	4.0*	0.10	N, E, S	o, v	
	16	29.275	29.557	87	80	79	E N E	16.0*	...	ES	Cloudy.		
	22nd	10	29.307	29.589	87	81	78	N N W	5.5*	0.40	N, E, S	d	
	16	29.280	29.512	81	80	87	W	4.0*	...	N, E, S	d, t, l		
	23rd	10	29.365	29.438	81	79	61	W S W	6.5*	0.20	N, N	d, t, l, c	
	16	29.293	29.373	78	77	96	W S W	9.0*	...	N, N	d, t, l, c, o		
	24th	10	29.508	29.581	81	77	83	W	6.0*	0.00	N	o	
	16	29.417	29.489	86	79	73	S W	4.0*	...	...	g		
	25th	10	29.743	29.718	80	87	47	N	1*	0.00	N, N	g	
	16	29.640	29.685	81	79	91	N	9	...	...	g		
	26th	10	29.693	29.713	78	76	90	W N W	1*	0.00	N, N	g	
	16	29.680	29.604	83	79	87	W S W	1	0.10	N, N	g		
	27th	10	29.618	29.619	80	76	91	B S E	1	0.20	N, N	g	
	16	29.485	29.501	83	78	63	S S	1	...	...	g		
	28th	10	29.551	29.589	80	78	91	B E	1	1.10	N, N	b	
	16	29.409	29.614	86	79	87	S S	2	0.10	N, N	b		
	29th	10	29.601	29.619	80	79	95	B S E	2	0.60	...	b, w	
	16	29.559	29.574	79	78	95	S S	2	0.80	...	b, w		
	30th	10	29.025	29.640	88	80	87	B S E	2	0.20	...	w, g	
	16	29.504	29.679	84	80	88	S S	2	0.10	...	w, g		
	31st	10	29.680	29.685	81	79	91	B S E	2	1.00	N	d	
	16	29.604	29.609	80	78	91	S	1	0.10	N	d		

\* Velocity of wind in miles per hour.

CALCUTTA,  
The 24th June 1871.HENRY F. BLANFORD,  
Meteorological Reporter to the Government of Bengal.

## Weekly Report of Rainfall compiled at the Meteorological Reporter's Office.

Division.	Stations.	Rainfall from 6th to 11th June 1871.		Rainfall from 12th to 18th June 1871.		RAINFALL FROM 1ST JANUARY 1871.		REMARKS.
		Rain.	Up to date.	Rain.	Up to date.	Rain.	Up to date.	
CUTTACK.	Cuttack { Telegraph Office	Nil	Nil	14.48	18th June 1871.			
	Jail	0.17	1.24	ditto.	ditto.			
	Palas Point	0.50	18.85	ditto.	ditto.			
	Jajipore	1.00	11.00	ditto.	ditto.			
	Kendraparab	1.30	14.00	ditto.	ditto.			
	Jagatsinghpore	Nil	0.20	15.13	ditto.			
	Sambalpore	1.00	3.45	6.28	ditto.			
	Bhadrak	0.63	1.43	ditto.	ditto.			
	Boudh	0.68	1.60	10.00	ditto.			
	Parasore	Nil	0.68	11.91	ditto.			
CHITTAGONG.	Khoordah	1.34	0.98	13.84	ditto.			
	Gazroshangh	1.81	1.08	7.17	ditto.			
	Burkee	1.30	2.32	8.71	ditto.			
	Pachchumba	Nil	2.03	11.24	ditto.			
	Itanchore	Not received	Not received	2.40	With April 1871.			
	Palamow	0.27	1.07	12.48	18th June 1871.			
	Parulia	0.74	3.00	13.28	ditto.			
	Chyghasta	2.00	2.90	14.20	ditto.			
	Patna	Nil	0.10	8.35	ditto.			
	Bihar	ditto	Not received	8.72	11th June 1871.			
PATNA.	Bihar	ditto	0.28	3.65	18th June 1871.			
	Dinapors	0.89	0.27	4.68	ditto.			
	Gya	0.80	1.89	6.82	ditto.			
	Khonghatty	1.83	Not received	4.19	11th June 1871.			
	Nowadah	Nil	ditto	8.00	ditto.			
	Arungenabad	0.35	1.48	5.43	18th June 1871.			
	Khonarpur	Not received	Not received	0.51	4th June 1871.			
	Bettish	Nil	ditto	Nil	11th June 1871.			
	Champrah	ditto	0.40	5.90	18th June 1871.			
	Bawali	Not received	Nil	9.79	ditto.			
BENGALURU.	Mangalpore	Nil	0.80	6.83	ditto.			
	Durbiangah	0.26	5.97	10.00	ditto.			
	Sealparas	0.10	2.10	11.01	ditto.			
	Tajpore	Nil	1.40	6.79	ditto.			
	Madhubani	ditto	2.19	8.92	ditto.			
	Hajipore	ditto	0.03	0.58	ditto.			
	Arrah	ditto	0.71	0.01	ditto.			
	Ilazar	ditto	1.00	0.25	ditto.			
	Seeram	0.40	0.88	2.30	ditto.			
	Bhubnooh	2.90	1.60	7.17	ditto.			
BANGLA DURGA.	Banaras	0.15	Not received	2.85	11th June 1871.			
	Bhawalpore	Not received	ditto	1.97	28th April 1871.			
	Muddeyporeh	Nil	5.42	14.71	18th June 1871.			
	Burka	ditto	0.80	9.54	ditto.			
	Monghyr	ditto	5.21	8.51	ditto.			
	Jammonie	ditto	0.76	8.18	ditto.			
	Degosari	0.20	1.09	7.40	ditto.			
	Dhonghur	0.08	1.07	13.09	ditto.			
	Jantara	0.80	1.50	14.30	ditto.			
	Rajmehal	Not received	Not received	6.00	21st May 1871.			
BENGAL.	Pekoor	Nil	0.76	3.00	18th June 1871.			
	Purnesh	1.93	4.35	15.01	ditto.			
	Rampore Basilesh...	6.10	Not received	14.78	11th June 1871.			
	Nattore	3.81	ditto	10.80	ditto.			
	Bogra	15.74	0.40	29.07	18th June 1871.			
	Dinapore	5.41	1.06	20.50	ditto.			
	Maldab	1.47	2.09	18.81	ditto.			
	Berhampore	0.09	6.08	17.20	ditto.			
	Jungipore	1.81	1.31	17.50	ditto.			
	Ladbagh	0.88	2.73	11.64	ditto.			From 18th Jan.
BOMBAY.	Jamookandi	0.61	3.17	13.18	ditto.			From 17th April.
	Pulna	4.68	1.76	9.58	ditto.			
	Comercolly	Not received	Not received	6.02	23rd April 1871.			
	Serajgunge	6.60	2.06	9.98	18th June 1871.			
	Bengipore	16.90	9.60	30.10	ditto.			
	Bhowmigunge	12.90	2.64	30.24	ditto.			From 23rd Jan.
	Titalya	5.70	0.47	18.60	ditto.			
	Burdwan	8.66	1.71	16.08	ditto.			
	Cuttwa	0.80	1.61	14.48	ditto.			
	Culna	5.89	2.55	23.00	ditto.			
BENGAL.	Hoodi-Bood	2.06	5.08	17.64	ditto.			
	Rancoorah	2.44	1.10	20.18	ditto.			
	Kantegunge	1.40	1.44	15.20	ditto.			
	Sorree	0.67	2.12	12.80	ditto.			
	Hosghir	1.20	2.00	21.07	ditto.			
	Serampore	8.95	1.96	19.64	ditto.			
	Jehannabad	8.72	Not received	14.47	11th June 1871.			
	Howrah	8.08	8.66	26.00	16th June 1871.			
	Midnapore	0.80	1.29	24.08	ditto.			
	Contai { Dy. Calr's Office	2.09	1.08	29.20	ditto.			
	Contai { Eogr's Office	2.78	1.10	27.95	ditto.			
BOMBAY.	Gurheta	9.50	1.59	17.19	ditto.			
	Tumlock	0.56	0.80	81.48	ditto.			From 6th Feb.

DIVISION.	Stations.	Rainfall from 5th to 11th June 1871.	Rain from 1st January 1871.		Remarks.
			Rain.	Up to date.	
Kishnaghur	...	2.46	1.89	20.70	18th June 1871.
Bongea	...	4.99	2.19	31.18	ditto.
Ranaghat	...	7.89	1.65	21.92	ditto.
Meherpore	...	5.38	2.03	18.85	ditto.
Choojangah	...	2.01	2.85	20.85	ditto.
Kushtia	...	5.01	1.25	35.56	ditto.
Jessore	...	6.20	3.18	31.18	ditto.
Rhoolnah	...	6.78	2.78	26.47	ditto.
Jenidah	...	11.91	2.24	32.49	ditto.
Nurail	...	5.15	3.22	20.67	ditto.
Magonah	...	6.37	0.10	15.72	ditto.
Bagirhat	...	8.21	1.41	23.80	ditto.
Bangor Island	...	6.10	3.30	31.30	ditto.
Calcutta	...	5.79	4.01	40.39	ditto.
Alipore { Jail	...	8.25	2.00	41.53	ditto.
Alipore { Hospital	...	8.35	2.12	41.44	ditto.
Barrackpore	...	12.77	1.35	34.96	ditto.
Dum Dua	...	4.74	1.53	28.83	ditto.
Barasat	...	6.74	0.87	21.86	ditto.
Salkherah	...	4.81	3.88	23.41	ditto.
Basseinhat	...	6.41	4.11	20.39	ditto.
Diamond Harbour	...	4.36	0.70	30.21	ditto.
Bartipore	...	6.42	2.14	30.88	ditto.
Dacca { Telegraph Office	...	6.20	0.92	31.88	ditto.
Dacca { Jail	...	4.30	Not received	33.00	11th June 1871.
Barrisal	...	7.74	5.14	33.01	18th June 1871.
Dowlat Khan	...	7.75	3.38	26.61	ditto.
Popiopore	...	10.15	1.47	31.04	ditto.
Madaripore	...	4.21	1.10	27.34	ditto.
Faridnagar	...	6.21	2.20	36.19	ditto.
Goghat	...	8.35	1.77	10.12	ditto.
Mymensingh	...	19.40	2.17	44.10	ditto.
Janulpore	...	8.24	Not received	42.34	11th June 1871.
Atteah	...	0.51	0.26	37.02	14th June 1871.
Kishorapungo	...	20.44	Not received	49.00	11th June 1871.
Sylhet	...	6.61	3.55	52.83	16th June 1871.
Caron	...	1.01	Not received	33.98	11th June 1871.
Hajlakandy	...	1.88	ditto	38.83	ditto.
Koyah	...	1.97	ditto	43.83	ditto.
Chittagong { Telegraph Office	...	7.40	3.40	33.30	18th June 1871.
Chittagong { Jail	...	17.08	3.07	37.03	ditto.
Cor' Bazar	...	10.24	Not received	47.28	11th June 1871.
Rangamata Hill	...	Not received	ditto	24.50	4th June 1871.
Nosibally	...	12.67	4.80	33.31	18th June 1871.
Tipperah	...	12.40	2.10	41.90	ditto.
Brahmanbaria	...	10.39	0.82	41.43	ditto.
Akyab	...	15.80	20.00	68.00	ditto.
Bass	...	0.95	4.86	41.13	ditto.
Gownpatik	...	6.40	Not received	89.68	11th June 1871.
Dhobroo	...	6.90	1.00	28.87	18th June 1871.
Tura (Garo Hills)	...	6.80	Not received	33.64	11th June 1871.
Darjeeling { Telegraph Office	...	Not received	ditto	16.95	31st May 1871.
Darjeeling { Jail	...	2.30	1.84	21.04	18th June 1871.
Kumthie	...	Not received	Not received	12.28	20th April 1871.
Fulnabat	...	9.70	ditto	17.16	11th June 1871.
Julphuor	...	6.02	0.90	23.70	18th June 1871.
Boda	...	0.56	0.95	21.15	ditto.
Teopore	...	0.90	Not received	28.10	11th June 1871.
Nawrang	...	0.80	2.47	24.76	18th June 1871.
Mungidye	...	1.61	Not received	23.02	11th June 1871.
Burpetah	...	2.20	ditto	27.64	ditto.
Gowkhatty	...	2.28	5.48	28.99	18th June 1871.
Seelamangal	...	0.17	Not received	31.00	11th June 1871.
Lorhant	...	0.68	ditto	22.68	ditto.
Golaghat	...	0.75	ditto	30.68	ditto.
Nazearah	...	0.43	ditto	32.97	ditto.
Debroughar	...	0.07	ditto	24.19	ditto.
Siddya	...	Not received	ditto	29.68	4th June 1871.
Shilong	...	0.23	ditto	29.70	11th June 1871.
Cherrapoonjee	...	28.78	19.23	112.84	18th June 1871.
Jowai	...	9.76	Not received	49.61	11th June 1871.
Samoogonding	...	0.78	ditto	18.03	ditto.

HENRY F. BLANFORD,  
Meteorological Reporter to the Govt. of Bengal.

CALCUTTA,  
The 24th June 1871.

**Weekly Return of Traffic Receipts on Indian Railways.**

**EAST INDIAN RAILWAY—MAIN LINE.**

*Approximate Return of Traffic for week ended 10th June 1871, on 1,279½ miles open.*

Number of Passengers.	COACHING TRAFFIC.			MERCANDISE AND MINERAL TRAFFIC.			Total Traffic Receipts.
	Rs. As. P.	£ s. d.	Weight carried.	Rs. As. P.	£ s. d.	£ s. d.	
Total traffic for the week ...	106,744	1,10,775 4 11	10,420 4 5	575,000 0	3,07,347 0 3	28,194 0 6	Rs. 611 12 11
Or per mile of railway ...	106,744	1,10,775 4 11	9 9 0	240 4 10	22 0 7	3 7	Rs. 3 7
For previous 22 weeks of half year ...	2,281,434	34,10,268 17 11	312,693 18 0	13,645,397 39	33,05,135 2 0	701,304 3 0	1,073,309 19 0
Total for 22 weeks ...	2,406,178	35,24,017 0 10	323,016 17 11	14,204,974 39	36,12,003 2 0	749,685 12 6	1,112,523 10 6
COMPARISON.							
Total for corresponding week of previous year ...	90,220	1,18,630 5 0	10,103 16 7	802,201 10	2,47,723 0 2	43,974 12 9	Rs. 616 7 8 4
Per mile of railway, corresponding week of previous year ...	90,220	105 0 4	9 12 7	.....	423 16 8	38 17 3	48 9 10
Total for corresponding date of previous year ...	9,392,348	41,18,221 0 9	377,305 12 0	17,387,636 0	30,77,452 12 0	867,007 10 11	1,384,601 12 5

\* East Indian Railway proportion of Delhi Railway deduced for weeks ended 15th, 22nd, and 29th May 1870, included. Deduct 3 weeks, or Rs. 6,670 3 11, for comparison.

**EAST INDIAN RAILWAY—JUBBULPORE LINE.**

*Approximate Return of Traffic for week ended 10th June 1871, on 223 miles open.*

Number of Passengers.	COACHING TRAFFIC.			MERCANDISE AND MINERAL TRAFFIC.			Total Traffic Receipts.
	Rs. As. P.	£ s. d.	Weight carried.	Rs. As. P.	£ s. d.	£ s. d.	
Total traffic for the week ...	4,802	10,627 10 1	965 0 0	70,241 0	18,015 2 0	1,733 17 0	Rs. 2,068 18 8
Or per mile of railway ...	4,802	47 3 9	4 0 7	.....	43 13 2	12 2 1	12 2 1
For previous 22 weeks of half year ...	106,236	3,58,103 11 7	50,003 0 10	1,353,927 39	3,61,673 0 0	34,031 13 11	65,824 14 9
Total for 22 weeks ...	106,334	3,48,813 0 8	31,954 1 0	1,360,608 39	3,60,685 3 0	30,645 11 5	65,823 13 2
COMPARISON.							
Total for corresponding week of previous year ...	4,388	10,547 13 16	904 7 0	55,049 10	15,083 14 11	1,407 18 11	Rs. 2,401 0 8
Per mile of railway, corresponding week of previous year ...	4,388	48 10 4	4 0 2	.....	48 13 7	0 0 3	10 18 5
Total for corresponding date of previous year ...	109,002	3,47,376 0 8	31,501 1 1	977,724 39	3,51,809 0 7	27,805 17 3	59,520 18 4

**EASTERN BENGAL RAILWAY.**

*Approximate Return of Traffic for week ended 10th June 1871, on 150½ miles open.*

Number of Passengers.	COACHING TRAFFIC.			MERCANDISE AND MINERAL TRAFFIC.			Total Traffic Receipts.
	Rs. As. P.	£ s. d.	Weight carried.	Rs. As. P.	£ s. d.	£ s. d.	
Total traffic for the week ...	27,805	26,304 0 0	1,600 0 0	127,611 10	31,407 1 5	2,873 10 8	Rs. 4,879 7 8
Or per mile of railway ...	27,805	104 0 5	9 11 9	816 0	200 00 11	18 7 11	27 19 8
For previous 22 weeks of half year ...	606,000	4,16,738 0 6	38,201 0 9	2,742,477 34	6,58,412 4 17	61,190 13 10	80,400 14 7
Total for 22 weeks ...	724,801	4,03,106 0 6	30,701 0 0	2,870,139 3	6,60,040 0 4	64,078 13 5	83,760 2 3
COMPARISON.							
Total for corresponding week of previous year ...	32,569	18,176 14 0	1,006 4 4	113,721 00	18,996 0 7	1,741 7 0	Rs. 4,607 11 4
Per mile of railway, corresponding week of previous year ...	32,569	180 0 0	14 14 3	1,004 0	107 11 10	16 7 0	20 1 0
Total for corresponding date of previous year ...	618,120	3,70,300 10 12	34,248 0 7	2,588,639 111	6,17,700 0 4	58,280 15 1	72,889 1 8

**CALCUTTA AND SOUTH-EASTERN STATE RAILWAY.**

*Approximate Return of Traffic for week ended 10th June 1871, on 28 miles open.*

Number of Passengers.	COACHING TRAFFIC.			MERCANDISE AND MINERAL TRAFFIC.			Total Traffic Receipts.
	Rs. As. P.	£ s. d.	Weight carried.	Rs. As. P.	£ s. d.	£ s. d.	
Total traffic for the week ...	5,182	1,104 14 9	119 0 11	0,580 0	274 0 8	27 0 2	Rs. 146 18 2
Or per mile of railway ...	136	42 5 1	4 4 8	873 7	9 12 0	0 18 7	6 4 2
For previous 16 weeks of half year ...	59,837	13,061 5 9	1,985 0 9	114,039 10	3,210 0 0	881 0 3	1,803 0 0
Total for 16 weeks ...	64,709	13,896 4 0	1,379 19 8	126,628 10	3,394 0 0	888 0 0	1,748 1 2
COMPARISON.							
Total for corresponding week of previous year ...	5,458	1,018 1 3	101 4 2	15,712 30	423 0 0	49 4 0	150 1 10
Per mile of railway, corresponding week of previous year ...	190	56 1 4	3 19 4	561 0	17 0 6	1 15 2	5 7 4
Total for corresponding date of previous year ...	54,643	9,380 0 0	999 0 0	129,599 3	4,485 0 0	446 0 0	1,446 4 9

EAST INDIAN RAILWAY—MAIN LINE.

*Approximate Return of Traffic for Week ended 17th June 1871, on 1,278½ miles open.*

Number of passengers.	COACHING TRAFFIC.			MERCHANTS AND MINERAL TRAFFIC.			Total traffic receipts.	
	Number of passengers.		Coaching receipts.	Weight carried.	Receipts.			
	Rs. As. P.	E. s. d.	Mds. Brs.	Rs. As. P.	E. s. d.	E. s. d.		
Total traffic for the week	93,071	1,09,272 1 2	16,818 12 1	607,000 20	3,18,765 15 8	20,162 12 7	34,180 4 8	
Or per mile of railway		75 0 5	7 16 7		248 13 0	23 16 2	30 12 9	
For previous 23 weeks of half-year	2,415,1781	25,24,491 0 10	323,016 17 11	14,398,870 50	86,12,602 2 11	789,484 12 0	1,112,523 16 6	
Total for 24 weeks	2,508,2194	36,33,260 2 8	335,051 10 8	14,900,795 10	96,30,030 2 0	914,871 5 1	1,151,732 16 1	
COMPARISON.								
Total for corresponding week of previous year	105,6102	1,20,045 6 10	11,004 3 3	780,310 10	4,64,078 18 2	26,540 0 2	53,544 3 6	
Per mile of railway corresponding week of previous year		105 1 6	8 14 6		410 2 3	27 11 11	47 6 8	
Total to corresponding date of previous year	2,327,831	42,35,256 13 7	384,809 16 9	18,143,915 20	1,01,41,605 0 2	929,036 0 1	1,018,148 16 1	

\* Rupees 1,534 11 4 added on account of freight of locomotive coal carried on Jubbulpore line.

EAST INDIAN RAILWAY—JUBBULPORE LINE.

*Approximate Return of Traffic for Week ended 17th June 1871, on 223 miles open.*

Number of passengers.	COACHING TRAFFIC.			MERCHANTS AND MINERAL TRAFFIC.			Total traffic receipts.	
	Number of passengers.		Coaching receipts.	Weight carried.	Receipts.			
	Rs. As. P.	E. s. d.	Mds. Brs.	Rs. As. P.	E. s. d.	E. s. d.		
Total traffic for the week	8,771	9,061 0 6	839 0 7	50,008 30	14,147 2 7	3,205 10 8	2120 0 8	
Or per mile of railway		46 11 1	3 14 8		43 7 1	5 16 4	0 11 0	
For previous 23 weeks of half-year	106,318	34,45,633 5 14	31,078 1 0	1,320,568 30	3,09,484 3 0	36,865 11 8	68,025 16 2	
Total for 24 weeks	110,309	35,57,715 2 2	32,780 11 1	1,419,577 20	4,14,335 5 6	37,062 8 1	70,732 16 2	
COMPARISON.								
Total for corresponding week of previous year	9,720	10,007 2 2	833 18 1	49,026 0	15,104 3 2	3,300 6 4	3,035 0 2	
Per mile of railway corresponding week of previous year		48 12 8	0 14 9		45 12 3	5 7 9	0 3 5	
Total to corresponding date of previous year	112,7204	35,56,672 2 10	32,694 19 2	1,037,610 30	3,14,913 0 0	28,867 1 7	61,560 0 4	

EASTERN BENGAL RAILWAY.

*Approximate Return of Traffic for Week ended 17th June 1871, on 150½ miles open.*

Number of passengers.	COACHING TRAFFIC.			MERCHANTS AND MINERAL TRAFFIC.			Total traffic receipts.	
	Number of passengers.		Coaching receipts.	Weight carried.	Receipts.			
	Rs. As. P.	E. s. d.	Mds. Brs.	Rs. As. P.	E. s. d.	E. s. d.		
Total traffic for the week	28,7062	18,028 11 0	1,432 7 8	116,907 26	10,941 0 11	1,631 13 0	8,207 0 8	
Or per mile of railway		100 0 11	9 5 5	760 4	127 10 30	11 14 1	20 17 6	
For previous 23 weeks of half-year	724,501	4,93,106 8 6	50,701 6 4	2,870,130 3	5,30,949 6 4	54,078 13 0	98,730 16 2	
Total for 24 weeks	751,0074	44,766 6 0	41,126 16 0	2,939,640 28	6,09,024 0 3	55,910 8 6	97,947 11 11	
COMPARISON.								
Total for corresponding week of previous year	28,7504	18,006 11 0	1,375 12 4	128,588 82	17,632 0 11	1,618 8 1	8,298 15 5	
Per mile of railway corresponding week of previous year		100 12 8	12 9 11	1,091 0	155 14 0	14 6 0	20 8 2	
Total to corresponding date of previous year	646,8704	3,91,897 5 04	33,926 18 11	1,682,250 21	4,35,359 2 3	59,367 18 2	75,851 17 1	

CALCUTTA AND SOUTH-EASTERN STATE RAILWAY.

*Approximate Return of Traffic for Week ended 17th June 1871, on 28 miles open.*

Number of passengers.	COACHING TRAFFIC.			MERCHANTS AND MINERAL TRAFFIC.			Total traffic receipts.	
	Number of passengers.		Coaching receipts.	Weight carried.	Receipts.			
	Rs. As. P.	E. s. d.	Mds. Brs.	Rs. As. P.	E. s. d.	E. s. d.		
Total traffic for the week	8,121	1,157 11 6	112 15 9	6,331 0	271 14 1	27 2 0	145 10 6	
Or per mile of railway	193	42 6 9	6 4 10	30 0	0 7 10	0 10 0	5 4 6	
For previous 11 weeks of half-year	61,7904	18,536 4 6	1,873 14 6	104,826 10	3,284 6 0	248 0 0	1,748 1 2	
Total for 12 weeks	69,9204	18,054 2 6	1,403 8 6	180,119 10	3,656 8 3	235 12 3	1,394 0 8	
COMPARISON.								
Total for corresponding week of previous year	8,308	171 6 6	97 10 10	18,408 20	474 19 9	47 9 4	144 12 3	
Per mile of railway corresponding week of previous year		180 11 1	8 9 9	482 0	16 16 3	1 13 11	5 3 4	
Total to corresponding date of previous year	69,948	10,981 12 9	1,066 8 7	187,586 21	4,936 18 0	493 12 4	1,669 14 11	

Results of the Meteorological Observations taken at the Surveyor-General's Office, Calcutta, from 15th to 21st June 1871.

Month.	Date.	Mean reduced barometer. Inches.	Thermometer.				Mean dry bulb.	Mean wet bulb.	Computed mean dew-point.	Mean degree of humidity.	Wind.				General Remarks.
			Highest reading.	Lowest reading.	Max. solar radiation.	Prevailing direction.					Max. pressure.	Daily velocity.	Rains.	Moon's places.	
June	15th	29.473	87.0	81.9	137.0	88.5	81.9	79.8	0.89	W & W, S & S by E	... 75.0	0.18	...	...	Cumuli and overcast. Slight rain at 2 A.M. and from 12 A.M. to 8 A.M.
	16th	29.437	87.8	81.0	137.0	88.1	81.2	79.2	0.86	S by E, S & S by W	... 171.5	0.36	...	...	Cirrostrati, cumuli, and stratus. Lightning on S. at 11 $\frac{1}{2}$ P.M. Rain at 7, 12 A.M., and 1 P.M.
	17th	29.400	87.4	80.9	137.0	88.6	81.8	78.6	0.85	S	... 200.5	0.01	...	...	Stratus, cirrocumuli, cumuli, and overcast. Drizzled at 6 A.M., 2 $\frac{1}{2}$ , 4, and 6 P.M.
	18th	29.328	89.6	80.5	140.5	84.4	80.3	77.4	0.80	S by W & S S W	... 165.0	...	...	...	Overcast, stratus, cumuli, and cirrostrati.
	19th	29.343	89.5	81.8	148.5	85.5	81.0	78.0	0.81	S S W & S	... 114.0	...	...	...	Cirri and cumuli.
	20th	29.385	89.6	83.0	137.0	85.1	82.5	80.8	0.87	S & E S E	... 115.0	...	...	...	Overcast and clouds of different kinds. Lightning at 4 & 5 A.M. and 11 P.M. Thunder at 8 P.M. Drizzled at 8 & 12 A.M., and 1 and 2 P.M.
	21st	29.494	89.7	80.0	143.0	83.7	80.0	78.0	0.86	S E & E by S	... 163.2	0.27	...	...	Cirrostrati, stratus, and cumuli. Rain at 12 A.M., 4, 5, & 11 P.M.

The mean barometer, as likewise the dry and wet bulb thermometer means, are derived from the twenty-four hourly observations made during the day.

The dew-point is computed with the Greenwich constants.—The figures in column 10 represent the humidity of the air, the complete saturation of which being taken at unity.—The receiver of the lower rain gauge is  $1\frac{1}{2}$  feet, and that of the anemometer 70 feet 10 inches, above the level of the ground.—The velocity of wind, as indicated by Robinson's anemometer, is registered from noon to noon.

The extreme variation of temperature during the past seven days	10.0
The max. temperature during the past seven days	90.5
The max. temperature during the corresponding period of the past year	94.5
The mean humidity during the past seven days	0.85
The mean humidity during the corresponding period of the past year	0.87
Inches.	
The total fall of rain from 15th to 21st	0.66
... by lower rain gauge	0.61
... by anemometer gauge	3.52
Ditto, average of seventeen previous years	41.41
Ditto, between the 1st January and the 21st June	20.05
Ditto, ditto ditto, average of seventeen previous years...	...

GOPKENAUTH SEN,  
In charge of the Observatory.

The 26th June 1871.

**Abstract of the Results of the Hourly Meteorological Observations taken at the Surveyor-General's Office, Calcutta, in the month of May 1871.**

LATITUDE  $22^{\circ} 33' 1''$  north, longitude  $88^{\circ} 20' 34''$  east. Height of the cistern of the standard barometer above the sea-level, 18.11 feet.

**MONTHLY RESULTS.**

		Inches.
Mean height of the barometer for the month	...	29.878
Max. height of the barometer occurred at 9 A.M. on the 2nd	...	29.869
Min. height of the barometer occurred at 5 P.M. on the 23rd	...	29.42
Extreme range of the barometer during the month	...	0.441
Mean of the daily max. pressures	...	29.741
Ditto ditto min. ditto	...	29.603
Mean daily range of the barometer during the month	...	0.138
<hr/>		
Mean dry bulb thermometer for the month	...	83.3
Max. temperature occurred at 4 P.M. on the 17th	...	95.0
Min. temperature occurred at 5 A.M. on the 5th	...	74.0
Extreme range of the temperature during the month	...	21.0
Mean of the daily max. temperature	...	91.2
Ditto ditto min. ditto	...	77.2
Mean daily range of the temperature during the month	...	14.0
<hr/>		
Mean wet bulb thermometer for the month	...	78.7
Mean dry bulb thermometer above mean wet bulb thermometer	...	4.6
Computed mean dew-point for the month	...	75.5
Mean dry bulb thermometer above computed mean dew-point	...	7.8
<hr/>		
Mean elastic force of vapour for the month	...	0.868.
Mean weight of vapour for the month	...	Troy grain.
Additional weight of vapour required for complete saturation	...	0.91
Mean degree of humidity for the month, complete saturation being unity	...	2.62
Mean max. solar radiation thermometer for the month	...	0.78
<hr/>		
Rained 17 days,—max. fall of rain during 24 hours	...	Inches.
Total amount of rain during the month	...	2.58
Total amount of rain indicated by the gauge* attached to the anemometer during the month	...	11.08
Prevailing direction of the wind	...	S S W

\* Height 70 feet 10 inches above ground.

GOFRENARTH SEN,

In charge of the Observatory.

The 24th June 1871.



EXTRA SUPPLEMENT  
TO  
**The Calcutta Gazette.**

FRIDAY, JUNE 30, 1871.

**OFFICIAL PAPERS.**

*Non-Subscribers to the GAZETTE may receive the SUPPLEMENT, separately, on payment of six Rupees per annum if delivered in Calcutta, or twelve Rupees if sent by Post.*

Government of Bengal.

**LEGISLATIVE DEPARTMENT.**

The following report of the select committee, with the amended Bill, is, by order of the Lieutenant-Governor, published for general information:—

We, the select committee appointed to consider the Bill "to provide for local rating for the construction and maintenance of roads and other means of communication," have the honor to make the following report:

From officiating Under-Secretary to Government of Bengal, No. 2031, dated 5th June 1871, and enclosure.

From Honorary Secretary, British Indian Association, dated 8th June 1871.

which the rent or revenue is paid direct to the collector, or his authorized agent, and land acquired under any rules for the sale, grant, or clearance of waste lands.

We have given the collector the option to value, without issue of notice, estates or tenures paying less than one hundred rupees' revenue or rent respectively, with power to the holders of such estates or tenures to give in a return of valuation, if dissatisfied with the collector's proceedings.

We have provided for the valuation of lands used for the cultivation of tea, coffee, or cinchona, at a fixed rate per acre of cultivated land.

We have altered the method proposed in the original Bill for the recovery of fines, expenses of valuation, and cesses, so that they shall be recoverable not as arrears of revenue, but (1) by attachment and sale of moveable property, (2) by prohibiting the payment of rents until further order, and empowering the collector to recover the rents until satisfaction of the amount due.

We have provided for the transfer to the District Road Fund of all sums collected by Government otherwise than under this Act on account of road cess.

We have made provision for the extension of the powers of branch committees.

We have altered the period for the currency of valuations under Part III. to one year, with a power of extension to five years, on the concurrence of the parties concerned therein.

We have made other alterations of less importance, to which we need not refer in this report.

We recommend that the Bill as now submitted be passed.

V. H. SCHALCH.

S. C. BAYLEY.

C. BERNARD.

ABBOOL LUTREF.

T. H. WORDIE.

With several reservations.

DIGUMERA MITTER.

With certain reservations.

The 28th June 1871.

*A Bill to provide for local rating for the construction and maintenance of roads and other means of communication.*

WHEREAS it is expedient to make provision for the construction and maintenance of roads and other means of communication within the territories of the Lieutenant-Governor of Bengal, and for that purpose to authorize the levy of a District Road Cess on immoveable property situated therein, and also to constitute Local Committees for the assessment of the same, and for the management of the proceeds thereof; It is hereby enacted as follows:—

PART I.—PRELIMINARY.

I. This Act may be called "The District Road Cess Act, 1871."

Commencement of Act. It may extend to all the territories subject to the Lieutenant-Governor of Bengal which are not included within the limits of the town of Calcutta, or of any place or town to which the provisions of the "District Municipal Improvement Act," or the "District Towns Act, 1868," respectively passed by the Lieutenant-Governor of Bengal, shall have been extended.

And it shall commence and take effect in any district or districts situated in the said territories to which the said Lieutenant-Governor shall extend it by any order published in the *Calcutta Gazette*, and thereupon this Act shall commence and take effect in such district or districts on the day which shall be in such order provided for the commencement thereof.

II. The Lieutenant-Governor shall, by an order published in the *Calcutta Gazette*, fix the date from which all the cesses leviable under this Act in any district shall take effect therein, and the cess year in such district shall run from that date.

III. In this Act the words in this section mentioned shall have the meaning therein attributed to them respectively, except where, from the context, a contrary intention appears:

"House" includes any shop or warehouse or place of business, or factory, or "House" other building or buildings within the same enclosure.

"Land" means land which is cultivated, uncultivated, or covered with water.

"Estate" means—(1). any land or share in land subject to the payment to Government of an annual sum in respect of which the name of a proprietor is entered on the register known as the general register of all revenue-paying estates, or in respect of which a separate account may, in pursuance of Section X or Section XI of Act XI of 1859, have been opened;

(2). Any land or share in land entered in the register of revenue-free tenures;

(3). any land the revenue or rent of which may be payable directly to the Collector or any person specially appointed by him to collect the same;

(4). any land acquired under any rules issued by or under authority of Government for the sale, grant, or clearance of waste lands.

"Tenure" includes every interest in land, whether "Tenure" rent-paying or not, save an estate as above defined, and save the interest of a cultivating ryot.

"Collector" includes any

person vested with the powers of a Collector.

"District" means the portion of territory throughout which any person vested with the powers of a Collector is authorized to exercise such powers.

"Immoveable property" includes lands, houses, and all benefits to arise out of land and things attached to the earth or permanently fastened to anything which is attached to the earth; but does not include crops of any kind.

"Cultivating ryot" means a person cultivating land and paying rent therefor not exceeding one hundred rupees per annum.

"Annual value of land" means the total rent which is paid, or if no rent is actually paid, would be reasonably expected to be payable during the year by all the cultivating ryots thereof, or by other persons in actual use and occupation thereof.

IV. From and after the commencement of this Act in any district within the said territories subject to the Lieutenant-Governor of Bengal, all immoveable property situated therein shall be liable to the payment of a District Road Cess, to be applied to the construction and maintenance of roads and other means of communication within the said district, and to be assessed thereto by the District Committee in manner as hereinafter is provided, and such road cess shall be recoverable from the several owners and occupiers of such property in the proportions and in the manner as are hereinafter provided.

PART II.—ROAD CESS ON LAND.

Valuation.

V. Upon the commencement of this Act in any district, the Collector shall cause a proclamation to be issued, requiring every holder of any estate or tenure of which the average annual Government revenue or rent shall exceed one hundred rupees severally to lodge at the Collector's office within one month a return of all lands comprised in his estate or tenure in the form in Schedule (A) hereto annexed, and containing the particulars in such form set forth. The Collector shall cause such proclamation to be published by affixing a copy thereof in some conspicuous place in the office of such Collector, in every civil court, in every police station, and in the office of every sub-divisional officer within the district.

VI. The Collector shall, so soon as may be after the publication of such proclamation, cause a notice to be served in the form in Schedule (A) for every such estate, and also a notice for every such tenure which may have been named in any return lodged in pursuance of the provisions of this Act, or may have been entered in any register in the Collector's office; and all holders of such estates and of such tenures who shall, without sufficient cause being shown to the satisfaction of the Collector, refuse or omit, for the space of three months after service of such notice, to

lodge in the office of the Collector such return as hereinbefore mentioned, shall be severally liable to a fine which may extend to fifty Rupees for every day after the expiration of such three months until such return shall be furnished, or until the value of the lands comprised in their respective estates and tenures shall have been ascertained and fixed by the Collector as hereinafter is provided. It shall be lawful for the Collector, upon sufficient grounds for so doing being proved to his satisfaction, from time to time to extend the period for lodging any such return.

**VII.** From and after the expiry of three months from the service of any such notice, or any extension of time under the provisions of the section next preceding, every holder of an estate or tenure in respect of which such notice shall have been served, shall be precluded from suing for or recovering any rent in respect of any land or tenure which shall be proved not to have been included in the return lodged by him, or in respect of which no return shall have been lodged as aforesaid or valuation made by the Collector, and from recovering rent for tenures subsequently created or in excess of the sum mentioned in such return without proof of the creation of such tenure or enhancement subsequent to such lodgment.

**VIII.** Whenever the revenue annually payable in respect of any estate, or valuation of small estates the rent annually payable in respect of any tenure, shall not exceed the sum of one hundred Rupees, the Collector may, without issuing any notice for such estate or tenure, determine the annual value thereof to be in a permanently-settled estate three times, and in a temporarily-settled estate twice, the amount of the annual revenue or rent payable therefor; provided that the holder of any such estate or tenure may within one month from the posting of the valuation roll in respect thereof under Section XVII, lodge a return in the form in Schedule A contained in regard to such estate or tenure, and thereupon the annual value thereof shall be fixed at the amount entered in such return subject to the provisions of Sections XII and XIV. Or the Collector may, if he think fit, cause a notice to be served in respect of any such estate or tenure in form in Schedule (A.) contained, and thereupon all the provisions of this Part shall apply in the same way as they would have applied if the annual Government revenue or rent thereof had exceeded one hundred Rupees.

**IX.** Whenever any lands have been acquired under any rules issued by the Government for the sale, grant, or clearance of waste lands, or are held directly from Government, and are used for the cultivation of tea, coffee, or cinchona, the Collector shall, in lieu of the notice to be served under Section VI, but at the time in the manner and under the penalties therein prescribed, cause a notice to be served calling on the holder of such lands to lodge a return in the form in Schedule (B) hereto annexed, and containing the particulars in such form set forth, and the annual value of such lands shall be fixed at ten Rupees in respect of every acre therein entered as cultivated.

**X.** Fines under Section VI of this Act, and all costs of recovery thereof, may be levied by an order in writing of the Collector, and such order shall have the force of a decree of a civil court in a suit in which Government is the plaintiff and the person liable to pay is the defendant, and such order may be enforced by attachment and sale of moveable property in manner provided by Act VIII of 1869 for the enforcement of decrees for money; and the procedure under the said Act in respect of the following matters, that is to say, sales in execution of decrees, claims to attached property, and execution of decrees out of the jurisdiction of the courts by which they were passed, shall apply to every execution issued for levying the moneys mentioned in such order, save that all the powers and duties conferred and imposed by the said Act upon the court shall be exercised by the Collector by whom such order has been made, or to whom a copy thereof has been transmitted for execution according to the provisions of the said Act, Section CCLXXXVI; or the Collector may, if he see fit, after recording his opinion to that effect cause a notice in form contained in Schedule (C), to be served for the estate or tenure for which default has been made, and thereupon every payment of rent save to the Collector or some person by him thereunto appointed made after such service, until further order of the Collector, shall be null and void; and the Collector may recover by any process of law in that behalf for the time being in force, the rent then or thereafter to become due from any occupier or tenure-holder on the said estate or tenure until the amount of such fine or fines with all costs shall be satisfied, whereupon the said notice shall be ordered to be revoked; and the receipt of the Collector in respect of all sums so recovered shall be to the extent of such sums a valid discharge in respect of rent due by such occupier or tenure-holder.

**XI.** The Collector may, after the expiration of four months from the service of any notice mentioned in Section VI or Section IX ascertain and fix, by such ways and means as to him shall seem expedient, the annual value of the lands mentioned in such notice of which no return required by such notice shall theretofore have been lodged; and all expenses incurred in making such valuation shall be recovered in manner as is provided by Section X for the recovery of fines.

**XII.** Whenever the Collector may deem that any return required by Section VI or Section IX of lands for which no rent is payable by cultivating rights to the person making such return is untrue or incorrect, he may, by such ways and means as to him shall seem expedient, ascertain and fix the annual value of such lands; and in case the annual value of such lands so determined by him shall exceed by one-fifth the value stated in such return, the expense of such valuation shall be paid by the person by whom such return shall have been lodged, and may be recovered in manner as is provided by Section X for the recovery of fines, and in all other cases shall be defrayed from the District Road Fund established under this Act.

XIII. It shall be lawful for the Collector, whenever he may think fit, to cause a notice in the form in Schedule (A) to be served with notice, on any person holding any lands or possessing any interest therein, although such person may have been mentioned in any return as a cultivating ryot; and thereupon such person shall be bound to make a return in the form in Schedule (A) contained, and the provisions contained in Section VI with regard to fines and extension of time for lodging a return shall be applicable to him. If no return is made, the Collector may proceed to ascertain the annual value of the lands held by such person, and in case it appears that the annual value of the land is greater than the rent which he pays, the expense of such valuation shall be borne by such person and may be recovered in manner as is provided by Section X for recovery of fines, and in all other cases shall be defrayed from the said District Road Fund.

XIV. If the Collector shall see ground for believing that any return made under this Act other than a return mentioned in Section XII is untrue and incorrect, he may prosecute the maker of such return under Section 177 of the Indian Penal Code. And if the Magistrate convict the person so prosecuted under the said section, the Collector may proceed to make a valuation of the lands mentioned in such return by such ways and means as to him shall seem expedient.

XV. For the purpose of making any valuation of lands directed by Power of Collector in this Part, the Collector shall exercise the powers vested in Collectors by section 19, clause 1, section 23, clause 1, and section 24, clause 1 of Regulation VII of 1822 of the Bengal Code, except so far as the said clauses authorize any enquiry into rights or interests attaching to such lands.

XVI. The Collector shall cause to be prepared Valuation rolls to be from the returns so furnished prepared. to him, and from the valuations made by him under this Part a valuation roll of each estate within his district, and of the tenures therein comprised, noting thereon the amount of revenue annually payable to Government on which the deduction specified in Section XXI, Clause 1 of this Act is to be calculated and shall, on the application of any holder of an estate or tenure or cultivating ryot within his district, cause to be furnished to him a copy of so much of the said roll and of the returns as relate to the lands included within his estate or tenure or ryottee holding, on being paid for the same at such rate as the Lieutenant-Governor of Bengal shall from time to time determine.

XVII. On the completion of every roll prescribed under this Part, the Collector shall cause a copy thereof to be posted up at the mal cutcherry of the estate and of every tenure to which such roll refers and if no mal cutcherry be found, then on some conspicuous place on the said estate and tenure.

XVIII. Every person who shall deem himself to be aggrieved by any valuation to be made by any Collector under the provisions of Section XII may, within one month after the posting up of a copy of such roll as above,

mentioned, appeal to the Commissioner of the division against such valuation, and the decision of such Commissioner shall be final and conclusive.

XIX. Every order for the levy of a fine or of expenses passed by a Collector under this Act shall be appealable to the Commissioner of Revenue within one month from the service of the first process for the levy of such fine or expenses. Pending such appeal, and until the order of the Commissioner which shall be final all process for such levy shall be discontinued.

#### Assessment and Payment.

XX. From and after the commencement of this Act in any district, all lands in such district shall be liable to the payment of District Road Cess at such rate not exceeding one-half of an anna in the rupee of the annual value of such lands as the District Committee in manner hereinafter provided shall determine.

XXI. (1)—Every holder of an estate shall yearly pay the entire amount of the road cess calculated on the annual value of the lands comprised in such estate, at the rate at which the road cess shall have been assessed as hereinafter provided, less a deduction to be calculated at one-half of the said rate for every rupee of the revenue entered in the valuation roll of such estate as payable in respect thereof.

(2)—Every holder of a tenure shall yearly pay to the holder of the estate or tenure within which the land held by him is included, the entire amount of the road cess calculated on the annual value of the land comprised in his tenure at the rate at which the road cess shall have been assessed as hereinafter provided, less a deduction to be calculated at one-half of the said rate for every rupee of the rent paid by him for such tenure.

(3)—Every cultivating ryot shall pay to the person to whom his rent is payable one-half of the said road cess calculated upon the rent payable by him, or upon the annual value, ascertained under the provisions of section XIII, of the land held by him.

XXII. When the rate of road cess to be levied in any district shall have been determined for any year by the District Committee in manner as hereinafter provided, the Collector shall cause to be served on every holder of an estate within the district a notice showing the amount of road cess payable by such holder, and specifying the date from which such road cess shall take effect. And thereupon the said holder shall pay the amount of such road cess to the said Collector, by equal instalments, on the several days fixed for the payment of the instalments of the Government revenue due in respect of his estate, if revenue be payable thereon; and if no revenue be payable thereon, then upon such days as shall be for that purpose appointed by any order of the Lieutenant-Governor made under the provisions hereinafter contained.

XXIII. If any instalment of such road cess or part thereof payable to the Collector shall not be paid, the person making default shall at any time within three years next after the

who has become payable, be liable to pay the amount of the arrear, and such amount may be levied by an order in writing of the Collector, and the provisions contained in Section X shall apply to such order; or the Collector may, if he see fit, after recording his opinion to that effect, cause a notice in form in Schedule (C) contained to be served for the estate or tenure for which default has been made, and thereupon every payment of rent save to the Collector or to some person by him thereunto appointed made after such service shall be null and void; and the Collector may recover by any process of law in that behalf for the time being in force the rent then or thereafter to become due from any occupier or tenure-holder on the said estate until the said amount with all costs shall be realized; whereupon the said notice shall be ordered to be revoked; and the receipt of the Collector in respect of all sums so recovered shall be to the extent of such sums a valid discharge in respect of rent due by such occupier or tenure-holder. The claim of the Collector for arrears of road cess due from any estate or tenure for which a notice has been served under this section shall have priority over any other demand or claim or lien subsisting thereupon.

XXIV. The payment for road cess by the holder of a tenure, or by a cultivating ryot, shall be made in the proportion of the kists of rent payable in respect of such tenure or ryottee holding; and if there be no rent payable in respect thereof, then by two equal half-yearly instalments, upon such days as shall be for that purpose appointed by any order of the Lieutenant-Governor made under the provisions hereinafter contained.

XXV. Every holder of an estate or tenure to whom any sum may be payable under the provisions of this Act, may recover the same in the same manner and under the same penalties as if the same were arrears of rent due in respect of the land in respect of which such sum may be payable. And any shareholder in an estate or tenure who may have paid the road cess payable in respect of such estate or tenure, may recover from his co-sharers such sum as may be payable in respect of their shares as arrears of rent; or may take credit for such payments in any adjustment of accounts between himself and his co-sharers.

XXVI. All lands held without payment of rent other than lands mentioned in Section IX, and not being estates entered on the register of revenue-free tenures of the district, shall, for the purposes of this Act, be deemed to form a part of the tenure within the local boundaries of which they may be included, and if they be not included within the local boundary of any tenure, then to be a part of the estate within the local boundaries of which they are included, and if they be not included within the local boundaries of any estate, then to be a part of such conterminous estate as the Collector, in whose district such conterminous estate is situated, shall, by an order under his seal, appoint. And road cess in respect of such lands shall be payable by the holder of the estate or tenure of which they are deemed to form a part, and shall be recover-

able under the provisions of Section XXIII or Section XXV as the case may be. Or such lands may, if the Collector shall see fit, be entered on a separate register to be kept for the purposes of this Act by the Collector, and thereupon road cess shall be payable thereon, and shall be recoverable in respect thereof as if the same were an estate.

XXVII. It shall be lawful for the person to whom any sum shall, under the provisions of the section lands for which no rent is next preceding, have been paid directly paid by the holder of any tenures for which no rent is paid, to retain one-fourth thereof as and for his remuneration for costs and risk of collecting the same.

### PART III.

#### ROAD CESS ON MINES, RAILWAYS, &c.

XXVIII. From and after the commencement of this Act in any district, Maximum rate on rail- every mine, quarry, tram- ways, &c. way, or railway, or other immovable property not included within the provisions of Part II and Part IV of this Act, situated therein, shall be liable to the payment of road cess at such rate not exceeding one-half anna on every rupee of the annual net profits of such mine, quarry, tramway, or railway, or other property as aforesaid as the District Committee may as hereinafter provided determine to be the rate in the rupee leviable in respect of the annual value of land under Part II.

XXIX. At the time, in the manner, and under the penalties provided Notice to return profits. by Section VI of this Act, the Collector shall cause a notice to be served upon the owner, chief agent, manager, or occupier of every mine, quarry, tramway, and railway in his district: such notice shall be in the form provided by Schedule D of this Act, and shall require such owner, chief agent, manager, or occupier to send in to the office of the Collector a return of the annual net profits of such property calculated on the average of the annual net profits thereof for the last three years for which accounts were made up. It shall be lawful for the Collector, upon sufficient grounds for so doing being proved to his satisfaction, from time to time to extend the period for lodging any such return.

XXX. Whenever any property assessable under this Part lies in two or more districts under different districts. the Lieutenant-Governor of Bengal, the notice to furnish a return under Section XXIX of this Act shall be served on the owner, chief agent, manager, or occupier of such property by or through the Collector of the district where such owner, chief agent, manager, or occupier may reside or have his chief place of business, and one return for the whole of such property shall suffice.

XXXI. Whenever any property assessable under this Part lies partly within and partly outside the territories subject to the Lieutenant-Governor of Bengal, the return sent in under Section XXIX of this Act shall state the total annual net profits calculated as aforesaid accruing from such property, and also the proportion of such profits which may reasonably be calculated to accrue in the territories subject to the Lieutenant-Governor of Bengal.

**XXXII.** If such return be not furnished within the period of three months or

If return not furnished, any extension thereof from Collector to make valuation. the date on which such notice was served, or if the

Collector shall deem that any return made in pursuance of such notice is untrue or incorrect, the Collector shall proceed to ascertain and determine, by such ways or means as to him shall seem expedient, the annual net profits of such property calculated as aforesaid, and all expenses incurred in making such valuation shall be borne by the person by whom, or the property in respect of which, the default occurred, and shall be recoverable in manner as is provided by Section X for recovery of fines.

**XXXIII.** So soon as the Collector shall have ascertained and determined

If return untrue. Collector to make valuation. the annual net profits as aforesaid of any such property, he shall cause to be served upon the owner, chief agent, manager, or occupier of such property, a notice informing him of the amount of the annual net profits so ascertained and determined by him. Any person who, having made a return under Section XXIX, may deem himself aggrieved by any valuation made by the Collector under the next preceding section may, within one month from the service of such notice, appeal to the Commissioner of the Division, and the decision of the Commissioner on such appeal shall be final.

**XXXIV.** If the Collector be unable to ascertain

Annual net profits. the annual net profits as aforesaid of any property assessable under this Part, he may in such manner as may seem fit to him, ascertain and determine the value of such property, and shall thereupon determine six per centum on such value to be the annual net profits thereon. The expenses incurred under this section shall be borne by the person by whom, or the property in respect of which, the default occurred, and shall be recoverable in manner provided by Section XXXII.

**XXXV.** Whenever any property assessable under this Part lies in two or more districts to which this

Determination of portion of profits when property in different districts. Act shall have been extended, the Lieutenant-Governor of

Bengal shall from time to time determine out of the total annual net profits stated in the return, or in the valuation of such profits occurring in the territories subject to him, and ascertained in any manner as aforesaid, the proportions in which such property shall be assessed in each of the said districts respectively.

**XXXVI.** When the rate of road cess to be levied

Notice of road cess and assessable under this Part every thereof. shall have been determined

for any year by the District Committee in manner as hereinafter provided, the Collector shall cause to be served on the owner, chief agent, manager, or occupier of every such property a notice showing the amount of road cess payable in respect of such property, and specifying the date from which such cess shall take effect. And such amount shall be payable by such owner, chief agent, manager, or occupier, to the Collector in two equal instalments, the first on the expiry of six months, the second on the expiry of nine months after the date hereinafter provided for the cess to take effect. Every occupier of such property, who shall have paid in excess of half of such amount shall be

entitled to deduct such excess from the next instalment of rent payable in respect of such property; and every owner who has paid in excess of half of such amount shall be entitled to recover such excess from the occupier thereof; provided that in no case shall an occupier deduct from his annual rent more than half of the rate of the road cess on every rupee thereof. If any instalment of cess which has become payable under this section shall not be paid to the Collector, the amount thereof may thereupon at any time within three years next after the same has become payable, be recovered by sale of moveable property of the person liable to pay the same in any manner as is provided by Act VIII of 1859 in execution of a decree for money.

**XXXVII.** The total road cess payable in respect

of property assessable under How distributed when property in different districts. this Part, owned by the same person in two or more districts,

shall be payable to the Collector of the district where the owner, chief agent, manager, or occupier may reside or have his chief place of business, and shall be by him transmitted to the Collectors of the districts in respect of which such cess shall be payable, in the proportion in which such Collectors shall be severally entitled thereto.

#### PART IV.—ROAD CESS ON HOUSES.

##### *Mode of assessment and levy thereof.*

**XXXVIII.** From and after the commencement of this Act in any district, Maximum rate. all houses within such district, of any of the classes mentioned in Schedule (E) save as hereinafter is provided, shall be liable to the payment of road cess from such date.

**XXXIX.** The said cess shall be payable by the occupiers of the houses Rate thereof. respectively liable thereto, according to the rates to be determined by the District Committee in manner as hereinafter provided, not exceeding the rates set forth in Schedule (E) annexed to this Act; provided that every occupier who shall have paid the cess due in respect of the house which he occupies, may deduct one-half of the sum so paid from the next instalment of rent which may become payable by him in respect of the said house.

**XL.** No person by whom any road cess is payable under the provisions Certain houses exempt. of Part II or Part III of this Act, shall be liable to pay road cess in respect of any house occupied by him unless such person shall carry on some trade or profession therein, the profits of which are not derived from the property in respect of which he pays cess under the provisions of the said Parts. And no house occupied exclusively as a place of worship shall be liable to road cess under this Act.

**XLI.** The value of the houses liable to such cess shall be determined in Valuation. places and villages to which the provisions of Act XX of 1856, or of "The Village Chowkendar Act, 1870," passed by the Lieutenant-Governor of Bengal in Council, shall have been extended, by the panchayets of such places and villages, respectively; and in all other places and villages by assessors to be respectively appointed thereto by the Collector. The Collector shall, as soon as conveniently may be after this

Act has come into force in his district, send written notices to such assessors and panchayets, respectively, requiring them forthwith to determine the value of the said houses. Every panchayet and assessor shall severally prepare and deliver to the Collector within two months of the receipt of such notice a valuation roll, which roll shall be in such form as the Lieutenant-Governor shall prescribe under the provisions of Section XCVII of this Act.

**XLII.** In case any panchayet or assessor who by the provisions herein contained, is charged with the duty of making any valuation under this Part, shall fail to prepare and deliver to the Collector such valuation roll within the time aforesaid, the Collector shall appoint some person to make such valuation, and to prepare and deliver to him such roll; and the valuation made by such person shall have the like force and effect as if the same had been made by the panchayet or assessor aforesaid.

**XLIII.** Every panchayet or assessor, or other person appointed under the provisions of the next preceding section, shall cause the said valuation roll to be published by posting copies thereof, in the language of the district, in some conspicuous position in the place or village to which it relates, and, in the case of any union in some conspicuous position in each village comprised within such union; and shall thereupon forward copy of such roll to the Collector.

**XLIV.** The Collector may, within two months of the receipt of the said copy, cause the said valuation to be tested by a Superintendent or other person as aforesaid thereto appointed by him. The valuation fixed by the panchayet or assessor shall be final, except in cases where the said Superintendent shall increase the same, and such increased valuation shall be published as in the next preceding section is provided. Any person who may deem himself aggrieved by such increased valuation may appeal within one month of the publication thereof to the Collector, and the order of the Collector thereon shall be final.

**XLV.** The road cess payable in respect of any house situate in any place or village to which the provisions of either of the Acts mentioned in Section XLI shall have been extended, shall be levied from the occupiers thereof half-yearly in two equal instalments, the first becoming due on the expiry of six, and the second on the expiry of nine months after the date fixed as hereinbefore provided, from which the cess under this Part shall take effect, by such person and by such ways and means as if the same were a rate or tax payable under the provisions of the Act extended to such place or village; provided that the limitation of six months prescribed in section XLVII of Act XX of 1856, shall in respect to the said road cess on houses, be extended to one year.

**XLVI.** Every sum in respect of road cess on houses which shall by any person be recovered under the provisions aforesaid, shall be with all convenient speed transmitted by him to the Collector, or to such person as the Collector may appoint to receive the same.

**XLVII.** In every place other than those to which the provisions of Act XX of 1856, or of "the Village Chowkeedaree Act, 1870," shall have been extended, the road cess which may be payable in respect of any house therein shall be payable to the assessor of such place by the occupier thereof by two equal instalments payable as aforesaid.

**XLVIII.** Any such instalment, if not paid no later than the tenth day after it has become due and payable, may be levied in the manner prescribed for the levy of an arrear of village chowkeedaree tax in Sections XXV to XXXIII inclusive, of the Village Chowkeedaree Act, 1870, and for the purposes of such levy the said assessor shall exercise the powers of a panchayet under Section XXV and of the collecting member of such panchayet under Section XXVI of the said Act.

#### PART V.—LOCAL COMMITTEES.

##### *Constitution of District Committees.*

**XLIX.** In and for any district to which this Constitution of district Act shall have been extended, the Lieutenant-Governor shall from time to time appoint, or cause to be elected under such rules in regard to qualification election and discharge as may by him be prescribed, for such period not exceeding two years as to him may seem fit, any number of the road-cess-payors of such district their managers or agents to be members of a district committee for carrying out the purposes of the Act.

**L.** The Lieutenant-Governor may, from time to time, discharge any one or more of the members of the committee so appointed who shall desire to be discharged, or refuse or become incapable to act, or whom for any cause which he may deem sufficient, he may think it expedient to remove.

**L1.** In addition to the members appointed or appointed as ex-officio elected as aforesaid, the Lieutenant-Governor shall have power to direct, by any writing signed by him, that all persons holding the offices in such writing specified shall be ex-officio members of the committee for any district in which they exercise the said offices, and in which this Act shall have come into force.

**LII.** The number of members of a district committee holding salaried offices under the Government shall not be more than one-third of the total number of the said committee.

##### *Their mode of transacting business.*

**LIII.** The Collector of the district shall be the chairman and vice-chairman of the district committee, and the vice-chairman shall be elected by the said committee.

**LIV.** The committee shall have an office within the district in and for which they shall have been appointed, where they shall meet for the transacting of business at least once in every quarter of a year.

**LV.** The chairman or, in his absence, the vice-chairman shall preside at every meeting of the committee. In the absence of both the chairman or vice-chairman the members present shall elect a president for the occasion.

**LVI.** The chairman or in his absence vice-chairman may, whenever Special meeting. he thinks fit, and shall, upon a requisition made in writing and signed by not less than one-third of the members, convene a meeting.

**LVII.** At least ten days' notice shall be given of every meeting. Notice of meeting. Every notice shall state the business to be transacted at the meeting proposed to be called; and no business other than that so stated shall be transacted at such meeting.

**LVIII.** The quorum necessary for the transaction of business at a meeting. Quorum. shall be one-third of the total number of members forming the committee at the time of the meeting.

**LIX.** If at the time appointed for the meeting, Adjourned meeting. or such time not exceeding one hour thereafter, as the majority of the members present shall think fit, a quorum is not present, the meeting shall stand adjourned till some future day, to be appointed by the chairman or vice-chairman of the committee, and ten days' notice of such adjourned meeting shall be given. The members present at such adjourned meeting shall form a quorum, whatever their number may be.

**LX.** All questions which may come before the committee at any meeting. Voting: casting vote. shall be decided by a majority of votes of the members present. Every member shall have one vote. In case of equality of votes, the president shall have a casting vote.

**LXI.** The minutes of the proceedings of every meeting shall be recorded in Minute book to be kept. a book to be kept for that purpose in the office of the committee, and any person resident in, or owning land in the district may at all reasonable times inspect and examine such book without payment of any fee, and may obtain a certified copy of any extract therefrom on payment of such fees as the Lieutenant-Governor may direct.

**LXII.** All correspondence between the committee and the local Government. Correspondence between committee and local Government. shall pass through the Commissioner of the Division, who in all things under this Act shall be subject to the control and supervision of the Lieutenant-Governor. The committee shall furnish him with any information he may call for connected with the duties imposed upon them by this Act.

#### Their Functions.

**LXIII.** The first meeting of a district committee shall be convened by the chairman at such time as he shall think fit, and shall proceed to the election of a vice-chairman.

**LXIV.** The committee at a subsequent meeting, to be convened by the chairman at such time as he shall think fit, may appoint, on the nomination of the chairman, and may suspend or dismiss as they may think fit, such officers, engineers, clerks, and servants, as may seem to them to be necessary for carrying out the purposes of this Act, and may pay to such officers, engineers, clerks, and servants, such salaries and allowances as they may from time to time determine.

Provided that the aggregate salaries and allowances of such officers, engineers, clerks and servants for any one year shall not, except with the sanction of the Commissioner of the Division, exceed one-fourth of the entire proceeds of the road cesses at their disposal for the said year.

**LXV.** No member, officer, or servant of any committee shall be in any wise concerned or interested in any contract or work made with or executed for such committee; and if any such member, officer, or servant, be so concerned or interested, he shall be incapable of afterwards continuing to be a member of such committee, or holding or continuing in any office or employment under such committee, and shall be liable on conviction thereof to a fine of five hundred Rupees. Provided that nothing in this section shall apply to any person by reason only of his being a shareholder in any company incorporated by Act of Parliament or by Royal Charter or otherwise, or registered under any Act for the registration of Joint-Stock Companies, passed by the Parliament of the United Kingdom, or by any Indian Legislature, which may enter into any contract with such committee, or execute any work for such committee, if such person shall, at or before the time of any such contract being made or tendered for, declare to such committee the extent of his interest in such company, and if an officer or servant of the committee obtain the sanction of such committee to his continuing to be an officer or servant.

**LXVI.** The vice-chairman, within three months after his election, shall Statement of roads to cause to be prepared a general be prepared. statement of the roads, bridges, rivers, khals, and canals other than those constructed for purposes of irrigation, to be brought within the operation of this Act within the three years then next ensuing, and other than those on which tolls are collected, the proceeds of which are not paid to the district committee, and the committee shall, at some meeting to be held within one month after the submission of such statement, or at any adjourned meeting, take such statement into consideration, and may pass any statement relating thereto which they may think fit.

**LXVII.** The committee shall thereupon forward the statement which shall be Statement to be forwarded to Commissioner. so passed to the Commissioner of Revenue of the division.

**LXVIII.** The vice-chairman may in any subsequent year cause to be prepared a supplemental statement of the kind mentioned in Section LXVI, and every such supplemental statement shall be subject to the provisions of the two sections next preceding with respect to the statement therein mentioned.

**LXIX.** The Collector shall, at such date as the Collector to submit annual statement to committee. district committee shall fix, prepare and deliver to the district committee a statement showing under separate heads the estimated proceeds, for the year then next ensuing, of the several road cesses at the maximum rates hereinbefore provided, and also of any sum and of any sources of revenue for the said period which the Lieutenant-Governor shall have assigned to the said district.

**LXX.** The committee shall at some meeting to be held in such month Annual estimate to be as the Lieutenant-Governor prepared.

shall determine prepare an estimate of the income and expenditure of the committee for the cess year then next ensuing, together with specifications and estimates of the works to be performed during such year, such works being a portion of, or included in, the works mentioned in the statement for the time being in force. In making such estimate the committee shall first determine the amount to be appropriated to office establishment and charges, next the amount to be appropriated to the repair of roads, bridges, rivers, khals and canals then existing, and afterwards the amount to be appropriated to the construction of new roads or canals; provided that no portion of the District Road Fund of any one district shall, save with the previous sanction of the Lieutenant-Governor, be appropriated for the construction, repairs, maintenance, or improvement of roads or bridges, or any other means of communication within any other district.

**LXXI.** Every such estimate shall be forwarded by the vice-chairman Commissioner may refer to the Commissioner, and vice estimate.

the Commissioner may approve such estimate or may return such estimate for revision in such respects as he may point out, or may alter or vary the total amount thereby proposed to be expended. Provided always that it shall not be lawful for the Commissioner to alter or vary any estimate which shall have been approved by not less than two-thirds of the members of the committee present at the meeting at which such estimate shall have been adopted.

**LXXII.** The total amount in and by any estimate proposed to be expended Limit of estimate. in any one cess year shall not exceed the proceeds estimated to be at their disposal for that year of the several road cesses hereinbefore directed to be imposed within the district at the maximum rates at which they are respectively leviable, together with any sum and the annual proceeds of any source of revenue which shall have been placed by the Lieutenant-Governor at the disposal of the committee.

**LXXIII.** Whenever any estimate shall have been altered or revised by the Supplemental estimate. Commissioner as hereinbefore is provided, the committee shall cause a supplemental estimate to be prepared, and in case the amount proposed to be expended shall have been increased by such alteration or revision, shall at a meeting provide for the expenditure of such increased sum, within the limits in the next preceding section specified; and in case such sum shall have been similarly diminished, shall therein determine the works proposed in the original estimate which are to be altered or abandoned.

**LXXIV.** When and so soon as the amount for any one cess year proposed to be expended shall have been determined as hereinbefore is provided, the committee shall at a meeting, after deducting therefrom the amount which may be placed at their disposal as aforesaid, together with the estimated proceeds of any sources of revenue assigned to them, determine the several rates of cess under this Act required to produce the residue, and such rates shall be the rates at which the several

cesses shall be respectively leviable for the ensuing year.

**LXXV.** So soon as the said rates shall have been determined as aforesaid, the committee shall inform the Collector thereof, and the Collector shall cause a proclamation to be issued in his district declaring the same. Such proclamation shall be published in manner as in Section V is directed. And the said rates shall be reported by every Collector to the Lieutenant-Governor, who shall forthwith cause the same to be published in the *Calcutta Gazette*.

#### Branch Committees.

**LXXVI.** In any district to which this Act shall have been extended, Branch committee. the Lieutenant-Governor of Bengal shall appoint, or cause to be elected under such rules as he may prescribe, as many branch committees as he shall think fit, and shall appoint a chairman and vice-chairman thereof respectively, and shall define the portion of such district within which any branch committee shall exercise the powers conferred and discharge the duties imposed upon them by this Act.

The provisions in Sections L to LII and LIV to LXI respecting district committees shall apply so far as the same are suitable, to such branch committees.

**LXXVII.** Every such branch committee shall Branch committees be, except as hereinafter provided, subordinate to the district committee, and shall forward to the district committee such statements, suggestions, and estimates as it may think fit, and the district committee shall consider and have regard to such statements, suggestions, and estimates in framing the statements and estimates hereinbefore directed. And such branch committee may select any member thereof to be an additional member of the said district committee who shall thereupon, for the space of one year, become a member thereof.

**LXXVIII.** It shall be competent to the Lieutenant-Governor in each year Funds of the branch to assign to any branch committee so much of the road fund levied for that year in the district for portion of which such branch committee is appointed as he may think fit, not exceeding the total proceeds of all cesses leviable within the said portion of the district; and further, to allot to the said branch committee so much of the balance of the said fund as shall not relatively to the said balance exceed the proportion which the said assigned proceeds bear to the total proceeds of cesses levied for the said year throughout the entire district.

**LXXIX.** In any case where the Lieutenant-Governor of Bengal may declare that a branch committee shall have the full powers of a district committee within the said portion of the district, the district committee shall cease to exercise powers under Section LXIV, LXV, LXVI, LXX, and LXXIII, within such portion of the district: and such powers shall then vest in the branch committee; and in any case where the Lieutenant-Governor of Bengal may declare that a branch committee shall have the powers of a district committee for specified works

or specified purposes only, the powers of the district committee in respect of such works and such purposes only shall cease within the said portion of the district.

**LXXX.** Any branch committee so vested with power as in the next preceding section provided, shall prepare an estimate in regard to such assignment and allotment similar to that required by section LXX to be prepared by the district road committee in regard to their annual income and expenditure.

**LXXXI.** The provisions of sections LXXI, LXXII, and LXXIII shall apply to such estimate: provided that the aggregate annual amount to be expended by the branch committee last aforesaid shall not exceed the aggregate of the said annual assignment and allotment.

#### PART VI.—DISTRICT ROAD FUND.

**LXXXII.** The District Road Fund under this Constitution of District Act shall consist of the Road Fund amount produced by the several road cesses, and of all sums levied or recovered as fines or penalties or otherwise under this Act, and of all sums, and the proceeds of all sources of revenue assigned by Government thereto.

**LXXXIII.** The Lieutenant-Governor shall, on or before the date fixed as that Power to assign funds, from which the several road cesses under this Act shall take effect in any district, assign to the district committee appointed therein all such sums as may have been collected within the said district during the financial year then last completed, on account of any road cess payable otherwise than under the provisions of this Act, and such sums shall by the said committee be added to the district road fund.

**LXXXIV.** The District Road Fund shall be lodged with the Collector, and the Collector shall keep a separate account thereof, and shall cause to be prepared an annual statement of such account, showing in detail therein all receipts and disbursements during the cess year.

**LXXXV.** All payments on account of the District Road Fund shall be made by the Collector out of the said fund upon cheques to be signed by the vice-chairman of the committee for sums under one hundred Rupees, or by the chairman and vice-chairman for sums above that amount. When the vice-chairman is absent, or from any cause incapacitated to sign cheques, the chairman shall sign cheques on behalf of the vice-chairman.

**LXXXVI.** The Collector shall forward to the vice-chairman in every month Collector's monthly ac- an account of his receipts and count. disbursements on account of the District Road Fund for the previous month.

**LXXXVII.** The committee shall keep regular Accounts of committee. and detailed accounts of the monies received or applied by them under the provisions of this Act and of their application, and such accounts shall be, at all convenient seasons, open to the inspection of all members of the committee.

**LXXXVIII.** The vice-chairman shall, in every Annual account current year, prepare a detailed account current of the receipts and expenditure of the District Road Fund during the previous year, and such account shall within one month of the submission thereof be examined by the vice-chairman together with three members of the committee appointed in its behalf by the district committee. Such members shall have power to call for all vouchers and papers they may require, and may amend, correct, and pass the said account.

The account so passed shall be submitted to a meeting of the committee to be convened to consider the same within one month from the receipt thereof.

**LXXXIX.** Within one month after the account Annual report to be sub- mitted to Commissioner. of the next preceding year shall have been examined as aforesaid, the committee shall submit to the Commissioner a copy of such account and a report of the work done and in progress in such year, and such account and report shall be published at the expense of the District Road Fund in a *Calcutta Gazette*, together with such remarks thereon as may have been received from the Commissioner.

**Application of the Dis- triict Road Fund.** XC. The District Road Fund shall be applied—

in paying the necessary expenses for carrying out the provisions of this Act, including establishment and charges incurred by the collector;

in the payment of the staff and establishment appointed under the provisions hereinbefore contained;

in the construction, repair, improvement, and maintenance of roads, bridges, rivers, khale, and canals other than those constructed for purposes of irrigation, and other than those on which tolls are collected the proceeds of which are not paid to the District Committee.

#### PART VII.—GENERAL PROVISIONS.

**XCI.** Every valuation under Part II and Part IV, shall remain in force and General valuation to be in force for five years. effect for the term of five years from the date fixed as hereinbefore provided for the several cesses leviable in pursuance thereof to take effect and until a new valuation and assessment shall have been completed.

**XCI.** After the expiration of the said five years the Collector may Power after five years to make new valuation. cause a new valuation roll under Part II, or under Part IV, or under both, to be prepared, and for that purpose may cause such proclamations and notices to be issued and served, and such returns to be made as are hereinbefore directed, and shall have such powers and authorities as are in the said Parts respectively conferred.

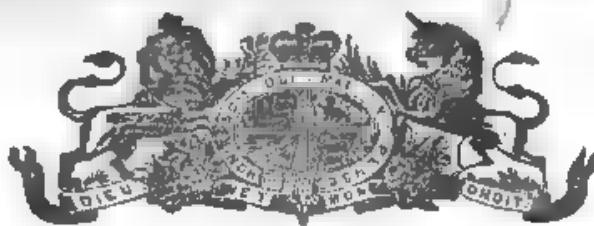
**XCIIL** New valuations under Part III shall be made by the collector New valuation under Part III. every year, and the collector may for that purpose cause such notices to be issued and served, and such returns to be made, and shall have such powers and authorities, as are in the said Part mentioned and conferred. Provided that whenever any return made under section XXIX of this Act shall be accepted by the collector for any year, the owner, chief agent, manager or occupier of such property may, if he see





No. 27

of 1871



# SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JULY 5, 1871.

## OFFICIAL PAPERS.

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### Annual Administration Report of the Jessoro Municipality for 1870-71

From HORACE A. COCKERELL, Esq., Officiating Commissioner of the Presidency Division, to the Officiating Secretary to the Government of Bengal, in the Judicial Department.—(No. 98J, dated Calcutta, the 28th June 1871.)

With reference to Government order No. 2441, dated 27th April 1868, I have the honor to submit the administration report of the Jessoro municipality, together with the memorandum of annual receipts and disbursements for 1870-71. It is satisfactory to find that the municipality have kept in view the necessity of improving the water-supply of the town and suburbs. In 1869 seven tanks were thoroughly cleaned; during the past year one tank has been deepened, and another cleaned.

2. The municipality appear to have expended the limited income at their command judiciously.

3. The question of the improvement of the Bhrub river forms the subject of a special correspondence with Government. The chairman will be requested to notice in future reports the amount of attention given to municipal administration by the commissioners.

From G. S. PARK, Esq., Chairman of the Municipal Commissioners, Jessoro, to the Officiating Commissioner of the Presidency Division.—(No. 18, dated, Jessoro, the 2nd May 1871.)

I HAVE the honor to submit the annual statement of receipts and expenditure of the Jessoro municipality for 1870-71.

2. The sum of Rs. 6,591-8-6 was collected during the year, and at the end of it there was an outstanding balance of Rs. 1,718-2-9, of which Rs. 900 have since been realized. The reason of the outstanding balance being larger than that at the close of last year was the fire which broke out in Jessor in December last and burnt down upwards of 800 houses; however, the remainder of the Rs. 818-2-9 will be shortly realized.

3. The amount remitted or struck off during the year is not great, and it is fully covered by the assessment on new houses built during the current year.

4. The collections from toll gates have been made in full according to the farming jummas, and there is no balance due on account of any of the gates.

5. The charge of collection exceeds that of the previous year by Rs. 5 only, and consequently the remarks in the last year's report on this item are also applicable to the year under report.

6. There has been an excess of Rs. 406-3 in the charge for conservancy over that of last year. This is owing to the building of two new privies during the year, under review, at a cost of Rs. 322-4, and the wages of the six additional mohiters from October, at Rs. 6 each per month. There are now altogether twelve mohiters for the five privies, which have been in working order since October last. One of the new privies is close to the fish-market hereafter mentioned; the other behind the magistrate's court-house. This latter was made at the suggestion of Government. More privies will be required however. The conservancy bullock sheds have also been removed, at a cost of Rs. 30, from their former site, owing to the high charge of ground-rent by its owner. The fish-market, which is in a very crowded part of the bazar—a quarter which has been more than once visited by cholera—was metalled, so that it can now be easily kept clean and dry. The market had been surrounded with tiled drains in the previous year.

A pucca ghât on the Blyrub river, near the Durratunah bridge, was also begun during the year.

7. There is also an increase of Rs. 170-1-7 under the head "Police," which was principally incurred in building an outpost in the station at a cost of Rs. 182-8, which having been burnt, was rebuilt at a cost of Rs. 186. There are now fifty constables and three head constables for the whole municipality, of whom one head constable and thirty constables are for the station, and ten constables and one head constable for each of the two outposts Nilgunj and Chanchra. There has been no change in the mode of watching during the year.

8. The pond and its out-houses were destroyed by the fire in December, and were rebuilt at a cost of Rs. 120-15-3: hence the increase of the expenditure under this head over that of the past year.

9. The municipality was already well supplied with roads, and no new roads were made during the year; but a considerable sum (nearly Rs. 4,000), as shown in the figured statement, was expended on the repair of existing roads, including the cost of making a lakh of bricks for future requirements.

10. No new tanks were excavated during the year; but in Khurkee, an outlying quarter of the municipality, one tank was deepened and enlarged; a second tank in the same quarter was cleaned. The policy followed by the municipality is gradually to improve the existing tanks in preference to digging new ones. The municipality is at present fairly supplied with wholesome drinking water.

Area of municipality	...	...	Square miles.	
			Miles.	Running Feet.
Length of metalled roads	...	...	9	2,773
Ditto repaired during the year	...	...	2	1,900
Length of earthen roads	...	...	28	2,351
Ditto repaired during the year	...	...	7	4,118

11. A destructive fire broke out in the bazar near the cattle market in December last. One man was suffocated under the ruins of his house before he could be extricated, upwards of 800 houses were burnt down, and property estimated at a value of Rs. 5,300 was destroyed; the sufferers were for the most part persons in comfortable circumstances, and there were no cases of destitution arising from the disaster. The idea of purchasing a fire-engine with a view to guard against future losses by fire was broached, but it did not appear to be feasible.

12. Several roads were planted with trees during the year. The seedlings were very successful on the whole; but the large cuttings of peepul, and banyan which were tried in some places proved a failure, owing probably to their being planted too late in the season.

13. The balance in hand noted in the return tallies with that in the treasury on the 31st March 1871.

14. The municipality is greatly indebted to the vice-chairman, Mr. Quinn, for his diligent supervision during the year.

SUPPLEMENT TO THE CALCUTTA GAZETTE, JULY 5, 1871. 455

Dr.	Municipal Improvement Fund under Act III. of 1864, for the year 1870-71.	Cr.
		Rs. As. P.
To balance brought from last account		5,984 9 3
To amount collected on account of the rate of 7½ per cent. upon the annual value of houses, buildings, and lands	6,591 8 6	
Ditto on account of fines under Act III. of 1864	22 4 0	
Ditto on account of miscellaneous receipts	211 0 0	
Ditto on account of collections from toll gates	3,728 14 1	
Ditto on account of collections from pound	770 13 0	
Total Rs.		11,324 7 7
Grand total Rs.		17,309 0 10
Charges incurred in the collection of the rate of 7½ per cent. upon the annual value of houses and lands	854 0 0	
Conservancy	1,546 10 6	
Pound	296 11 0	
Amount paid to the district treasury for the maintenance of police, and building an out-post	3,851 2 6	
Amount expended for the repairs of metalled roads	3,104 8 6	
Earthen work on roads.		
Repairs of purea roads, and constructing cutch bridge, &c.	791 9 0	
Lighting of Kapooria Puttee road	456 4 9	
Improvement of tanks	1,024 10 6	
Establishment of the office of the municipal commissioners, including hire of the municipal office and printing charges	490 13 9	
Contingencies, miscellaneous, including pay of the vaccinator	86 4 0	
Grand total Rs.		2,849 10 0
Balance on the 31st March 1871		12,541 10 6
Grand total Rs.		4,767 6 4
		17,309 0 10

JESSORE, MUNICIPAL OFFICE,  
The 24th April 1871.

G. S. PARK, Chairman.

## Weekly Return of Traffic Receipts on Indian Railways.

## EAST INDIAN RAILWAY—MAIN LINE.

Approximate Return of Traffic for Week ended 24th June 1871, on 1,279½ miles open.

	COACHING TRAFFIC.			MERCHANTILE AND MINERAL TRAFFIC.			Total traffic receipts.	
	Number of passengers.	Coaching receipts.		Mds. Brs.	Rs. As. P.	£ s. d.		
		Rs. As. P.	£ s. d.					
Total traffic for the week	10,446	99,460 5 9	1,117 3 0	501,097 20	13,16,800 13 0	29,223 15 6	26,540 10 4	
Or per mile of railway	179	77 11 9	2 2 0	.....	249 2 7	22 16 10	20 10 4	
For previous 24 weeks of half-year	2,586,344	24,33,269 2 0	333,051 10 0	14,300,725 10	80,30,600 2 0	818,671 5 1	8,151,725 15 7	
Total for 25 weeks	2,656,823	37,32,740 7 9	342,103 14 0	16,401,723 30	42,48,703 15 0	447,394 6 7	1,100,000 14 7	
COMPARISON.								
Total for corresponding week of previous year	10,632	1,06,010 19 4	1,105 4 2	523,883 30	17,78,607 10 7	40,094 0 2	23,379 17 4	
Per mile of railway corresponding week of previous year	179	96 5 11	2 16 8	.....	421 2 0	33 12 2	47 8 11	
Total to corresponding date of previous year	2,598,576	43,17,307 10 11	336,603 4 2	15,007,700 10	1,00,19,963 8 9	979,322 0 8	1,371,625 15 5	

\* Rupees 15,000 added on account of difference between approximate and audited returns of previous weeks, and Rs. 7,514-840 added on account of freight of locomotive coal carried on Jubbulpore line.

## EAST INDIAN RAILWAY—JUBBULPORE LINE.

Approximate Return of Traffic for Week ended 24th June 1871, on 223 miles open.

	Rs. As. P.			Mds. Brs.			Rs. As. P.	£ s. d.		
	Number of passengers.	Coaching receipts.		Mds. Brs.	Rs. As. P.	£ s. d.				
		Rs. As. P.	£ s. d.							
Total traffic for the week	3,264	10,014 4 6	1,201 3 0	47,914 0	10,115 2 0	229 10 6	1,851 3 2	1,851 3 2		
Or per mile of railway	179	5 0 3	1 2 0	.....	45 7 11	4 3 5	8 5 11	8 5 11		
For previous 24 weeks of half-year	116,362	3,67,715 2 2	33,700 12 1	1,449,577 20	31,11,85 6 0	37,092 5 1	70,752 10 9	70,752 10 9		
Total for 25 weeks	119,623	3,67,723 6 7	33,710 14 7	1,460,981 20	4,24,280 8 3	38,892 7 7	72,808 2 9	72,808 2 9		
COMPARISON.										
Total for corresponding week of previous year	3,697	10,338 11 4	932 5 10	61,827 0	84,965 0 7	3,122 12 7	4,074 16 5	4,074 16 5		
Per mile of railway corresponding week of previous year	179	46 9 5	4 5 5	.....	163 12 1	14 0 1	18 5 11	18 5 11		
Total to corresponding date of previous year	116,427	3,67,000 14 2	33,642 5 0	1,039,837 30	3,48,078 10 4	31,068 14 5	65,030 10 2	65,030 10 2		

## EASTERN BENGAL RAILWAY.

Approximate Return of Traffic for Week ended 24th June 1871, on 156½ miles open.

	Rs. As. P.			Mds. Brs.			Rs. As. P.	£ s. d.		
	Number of passengers.	Coaching receipts.		Mds. Brs.	Rs. As. P.	£ s. d.				
		Rs. As. P.	£ s. d.							
Total traffic for the week	27,978	15,457 13 3	1,815 2 8	115,204 0	27,014 15 5	2,176 7 0	1,881 10 1	1,881 10 1		
Or per mile of railway	179	89 10 4	1 0 10	750 0	172 9 11	16 16 0	24 17 4	24 17 4		
For previous 24 weeks of half-year	751,067	4,46,765 4 0	41,136 16 0	2,030,046 20	610,101 6 0	65,910 0 0	67,047 9 11	67,047 9 11		
Total for 25 weeks	770,046	4,46,238 1 8	42,561 19 1	3,104,250 57	4,34,945 15 8	58,350 13 11	190,938 19 0	190,938 19 0		
COMPARISON.										
Total for corresponding week of previous year	33,8044	18,719 15 9	1,106 0 0	86,845 16	12,780 9 10	1,171 11 9	2,037 11 0	2,037 11 0		
Per mile of railway corresponding week of previous year	150	81 4 4	7 9 0	505 0	51 10 8	7 9 9	14 18 9	14 18 9		
Total to corresponding date of previous year	670,381	4,94,617 5 0	37,069 18 11	2,742,073 19	4,48,130 12 1	44,079 9 4	78,180 9 3	78,180 9 3		

## CALCUTTA AND SOUTH-EASTERN STATE RAILWAY.

Approximate Return of Traffic for Week ended 24th June 1871, on 28 miles open.

	Rs. As. P.			Mds. Brs.			Rs. As. P.	£ s. d.		
	Number of passengers.	Coaching receipts.		Mds. Brs.	Rs. As. P.	£ s. d.				
		Rs. As. P.	£ s. d.							
Total traffic for the week	34,594	2,905 1 6	150 10 2	5,463 0	245 10 5	34 10 5	278 1 0	278 1 0		
Or per mile of railway	179	89 7 6	8 18 11	292 0	8 18 0	0 17 7	8 16 0	8 16 0		
For previous 12 weeks of half-year	69,926	15,024 2 6	1,502 8 4	16,310 10	1,655 3 3	555 12 0	1,906 0 0	1,906 0 0		
Total for 13 weeks	94,516	17,628 4 0	1,702 18 4	163,391 10	4,101 15 0	410 8 0	2,162 3 3	2,162 3 3		
COMPARISON.										
Total for corresponding week of previous year	16,641	1,981 5 3	198 4 0	8,831 0	145 8 0	30 10 0	207 0 11	207 0 11		
Per mile of railway corresponding week of previous year	601	68 10 6	0 17 4	187 0	0 16 8	0 10 7	7 7 11	7 7 11		
Total to corresponding date of previous year	76,726	11,384 9 0	1,289 8 3	144,109 10	6,064 12 0	206 9 7	2,700 17 10	2,700 17 10		

## Meteorological Telegraphic Report for the period 25th June to 1st July 1871.

Station.	Date.	S. No.	Barometer reduced to 23°.	Barometer reduced to sea-level.	THERMOMETER.		Humidity Sat. = 100.	Wind.		Rain.	Clouds	Weather initials.	
					Dry.	Wet.		Direction	Velocity.				
CALCUTTA.	June												
	26th	10	29.668	29.667	83.2	81.4	93	S S W	...	104	...	a	
	16	29.677	29.676	82.0	79.8	91	S	...	...	...	...	a, d	
	26th	10	29.674	29.672	80.8	79.0	91	S W	...	...	...	a, d	
	16	29.673	29.670	82.0	79.2	93	W S W	...	...	0.92	S	...	
	27th	10	29.675	29.677	81.0	79.5	93	S S W	...	102	...	a	
	16	29.674	29.672	84.5	80.0	81	S W	...	0.90	...	...	a	
	28th	10	29.673	29.670	81.5	80.3	95	S W	...	0.01	S	...	
	16	29.670	29.669	83.0	81.6	93	S S W	...	0.12	S	...	a, d	
	29th	10	29.670	29.669	84.0	81.1	93	S S W	...	0.08	S	...	
	16	29.669	29.668	79.2	77.5	93	W S W	...	0.27	S	...	a	
	30th	10	29.670	29.674	84.6	82.5	91	N W	...	0.27	S	...	
SEVEN ISLANDS.	July	10	29.675	29.670	89.0	81.0	90	S S W	...	0.00	C, K	...	
	1st	10	29.673	29.671	81.0	78.2	93	S S W	...	0.32	...	a	
	16	29.673	29.674	87.3	80.7	74	E by W	...	...	CK	b		
CUTTACK.	June	25th	10	29.658	29.654	87	85	91	S S W	120*	0.10	N	a, m
	16	29.652	29.658	84	82	91	S S E	93*	0.10	...	d, o		
	26th	10	29.652	29.654	80	80	100	W N W	61*	0.30	...	a, r	
	16	29.651	29.650	80	79	95	W	100*	0.70	...	a, d		
	27th	10	29.657	29.659	81	81	91	S	12.9*	0.70	...	a, d	
	16	29.650	29.650	84	82	91	S W	18.3*	0.10	...	d, o		
	28th	10	29.641	29.647	85	83	91	S	17.5*	0.10	...	m, o	
	16	29.640	29.642	86	83	91	S S W	11.7*	...	...	m,		
	29th	10	29.634	29.630	86	81	91	S W	14.0*	...	...	m, o	
	16	29.634	29.630	86	81	91	S W	14.0*	...	...	m,		
	30th	10	29.634	29.630	87	85	91	S	14.5*	...	...	m, o	
JULY	1st	10	29.650	29.649	85	82	91	S W	11.8*	...	...	m, o	
	16	29.649	29.648	86	83	91	S	13.5*	...	...	m, o		
	2nd	10	29.645	29.641	87	83	91	S S E	3.3*	0.60	N	o, m	
	16	29.645	29.641	87	83	91	S S E	7.8*	...	...	o, m		
CUTTACK.	June	25th	10	29.674	29.674	89	79	87	E S E	1.0*	0.10	Ks	a, v
	16	29.674	29.674	87	79	83	S S	12.7*	...	K, Ks	b, q		
	26th	10	29.673	29.674	79	77	95	S W	1.3*	1.30	...	r, a, g	
	16	29.673	29.674	80	79	95	E S E	8.9*	0.20	Ks	a, g		
	27th	10	29.670	29.670	80	79	95	E S E	11.5*	0.80	Ks	a, o	
	16	29.667	29.667	80	79	95	S	11.3*	0.40	N	d, g		
	28th	10	29.667	29.667	80	79	91	S W	14.1*	0.90	N	r, o, q	
	16	29.667	29.667	80	79	91	S	6.4*	1.70	N	d, u, g		
	29th	10	29.670	29.670	77	77	100	E S E	7.0*	1.20	N	r, u, g	
	16	29.670	29.670	77	77	99	S E	0.9*	0.20	N	d, u, g		
	30th	10	29.670	29.671	77	75	99	E	0.9*	0.50	K	d, u, g	
JULY	1st	10	29.675	29.671	79	78	90	E S E	0.7*	...	Ks, CK	a, v	
	16	29.675	29.674	79	78	90	E S E	0.7*	0.20	Ks, K	b, e		
	2nd	10	29.674	29.674	79	78	95	W S W	10.0*	0.60	...	o	
	16	29.674	29.674	79	78	95	W S W	10.0*	0.60	...	o		
MADRAS.	June	24th	10	29.730	29.730	81	74	41	S S W	14*	0.0	...	ba
	16	29.735	29.725	80	74	31	S S W	14*	0.0	...	ba		
	25th	10	29.721	29.721	74	74	35	S W	10*	...	...	ba	
	16	29.721	29.721	101	26	26	S W	18*	...	...	ba		
	26th	10	29.720	29.720	01	13	37	S W	21*	...	...	ba	
	16	29.727	29.727	101	15	27	S S E	15*	...	...	ba		
	27th	10	29.727	29.727	93	25	40	S E by W	15*	0.04	...	ba	
	16	29.723	29.723	90	26	52	S E by E	12*	...	...	ba		
	28th	10	29.723	29.722	93	25	40	S W	10*	...	...	ba	
	16	29.722	29.722	88	28	62	S S W	16*	...	...	ba		
	29th	10	29.721	29.721	93	27	43	S by W	8*	...	...	ba	
	16	29.721	29.721	97	27	61	E by S	15*	...	...	ba		
	30th	10	29.720	29.720	92	28	45	S W by S	8*	...	...	ba	
	16	29.721	29.721	80	20	53	E S E	13*	...	...	ba		
CUTTACK.	July	10	29.609	29.611	81	77	82	W	0.0*	2.00	N	r, d, o	
	16	29.617	29.608	80	79	72	S W	0.0*	...	...	a, g		
	25th	10	29.617	29.618	80	82	73	W S W	2.0*	...	...	o	
	16	29.624	29.624	80	77	86	W	4.0*	...	...	o, w, r		
	26th	10	29.620	29.621	81	80	91	S W	2.0*	1.00	N	d, w	
	16	29.620	29.620	81	81	87	S S W	0.8*	...	...	o, g		
	27th	10	29.616	29.617	83	79	83	S S W	0.8*	...	...	o, g	
	16	29.617	29.616	86	80	75	S W	0.0*	...	...	o, w		
	28th	10	29.616	29.616	86	80	76	W S W	4.0*	...	N	o	
	16	29.617	29.617	86	78	89	S W	0.0*	...	N	o, w		
	29th	10	29.617	29.617	87	80	72	S W	0.4*	0.20	N, C	o	
	16	29.617	29.617	79	78	73	S S W	0.7*	...	N	Cloudy.		
	30th	10	29.617	29.617	87	80	78	W S W	0.8*	...	N	o, g	
	16	29.618	29.618	84	76	60	S W	0.8*	...	N	o, g		
	26th	10	29.700	29.716	81	78	86	S S W	1	0.00	N	o	
	16	29.711	29.724	81	79	91	S	2	0.10	...	o		
	26th	10	29.712	29.724	80	79	91	S W	1	3.10	N	o	
	16	29.712	29.717	77	78	96	S S W	1	1.20	N	r		
	27th	10	29.712	29.718	80	80	87	S S W	2	1.80	N	r	
	16	29.712	29.712	80	78	91	W N W	1	0.80	N	r		
	28th	10	29.712	29.712	84	81	87	S W	1	0.20	K, Ks	g	
	16	29.712	29.712	84	81	87	S S W	1	...	Ks	g		
	29th	10	29.728	29.712	78	76	90	N	1	4.30	K, Ks	g	
	16	29.728	29.712	79	77	90	S	1	0.80	N	g		
	30th	10	29.733	29.712	77	76	90	W S W	1	5.10	K, Ks, N	d	
	16	29.729	29.729	78	76	90	S W	1	...	K, Ks	g		
JULY	1st	10	29.729	29.729	78	76	90	S W	1	...	K, Ks	g	
	16	29.741	29.741	84	78	86	E S W	1	1.50	K, Ks	o		
	16	29.748	29.748	74	74	90	S S W	1	1.10	Ks, N	d		

\* Velocity of wind in miles per hour.

HENRY F. BLANFORD,  
Meteorological Reporter to the Government of Bengal.

B

## Weekly Report of Rainfall compiled at the Meteorological Reporter's Office.

District	Stations	Rainfall from		Rainfall from		Remarks
		1st to 31st June 1871	12th to 18th June 1871	19th to 25th June 1871	Rain.	
Calcutta	Patna, { Tebhawali, Chhota Cuttack, Cuttack	Nil	4.50	10.18	25th June 1871.	
	Patna, Cuttack	1.17	5.70	14.94	ditto.	
	Patna, Cuttack	3.93	Not received	18.85	18th June 1871.	
	Patna, Cuttack	0.50	0.91	18.84	20th June 1871.	
	Kandahar	0.40	0.10	17.70	ditto.	
	Jangtsingpore	0.20	0.81	18.03	ditto.	
	Srinagar	2.45	2.07	10.55	ditto.	Not received 15th to 21st May.
	Baharampur	1.63	2.00	22.30	ditto.	
	Blankishak	1.00	2.10	19.06	ditto.	
	Poona	0.93	0.91	21.25	ditto.	
	Khoardih	0.98	2.50	27.42	ditto.	
Nagpur	Hornibrough	1.08	1.01	9.48	ditto.	
	Burree	0.32	2.11	10.85	ditto.	
	Lucknow	2.03	4.7	17.31	ditto.	
	Ramgarh	0.0	Not received	2.30	20th April 1871.	
	L. Cawnpore	1.07	0.11	17.30	25th June 1871.	
	Purnia	0.40	0.05	10.21	ditto.	
	Gohimpore	0.21	0.10	4.91	ditto.	From 12th June.
	Phyzeshan	0.40	2.45	16.75	ditto.	
Petah	Patna	0.16	2.10	8.52	ditto.	
	Bihar	Nil	1.02	8.51	ditto.	
	Bath	0.18	0.84	1.49	ditto.	
	Dacca	0.27	1.04	0.51	ditto.	
	Dacca	1.84	1.81	0.51	ditto.	
	Sitwa, Dacca	0.0	Not received	1.40	12th June 1871.	
	Nowrangpur	0.0	0.0	0.00	ditto.	Not received 10th to 19th April.
	Amritsar	1.58	0.50	7.53	25th June 1871.	
	Amritsar	0.0	Nil	8.67	ditto.	Not received 6th to 11th June.
	Betabah	0.0	0.0	0.10	ditto.	From 5th June.
	Chirpali	0.00	1.71	7.01	ditto.	
	Sewan	0.0	1.81	11.93	ditto.	
	Moradabpore	0.00	4.76	11.53	ditto.	
	Hornibrough	2.97	Not received	10.89	19th June 1871.	Not received 15th to 21st May.
	Satavahan	2.40	0.45	11.16	25th June 1871.	25th June 1871.
	Tapore	1.13	0.07	0.20	ditto.	Not recorded 8th to 16th Mar.
	Mulkiwani	0.19	0.26	8.58	ditto.	From 1st April.
	Hajipore	0.01	2.51	2.12	ditto.	From 22nd May.
	Azam	0.71	2.25	2.84	ditto.	
	Burner	1.00	2.28	1.52	ditto.	
	Sassendu	0.93	2.52	1.92	ditto.	
	Bludhawal	1.63	1.91	0.00	ditto.	
Bengal	Patna	0.13	Not received	0.95	18th June 1871.	
	Howrah, Howrah	0.0	Not received	0.00	23rd April 1871.	
	Midnapore	5.42	0.00	15.01	25th June 1871.	
	Banik	0.63	1.58	11.12	ditto.	
	Midnapore	5.1	0.53	0.57	ditto.	
	Adra	1.75	0.65	11.30	ditto.	
	Hugonpur	0.00	2.11	0.82	ditto.	
	Hugonpur	1.7	2.03	10.01	ditto.	
	Jaunpur	1.00	Net received	11.30	16th June 1871.	From 13th Feb.
	Benigulal	0.0	Not received	11.8	11th June 1871.	From 12th Feb.
	Dakor	6.75	0.00	3.00	25th June 1871.	From 21st March.
	Patna	4.25	0.5	10.11	ditto.	
	Kichengunge	0.59	1.51	4.92	ditto.	From 12th June.
Rajputana	Balapore, Balapore	0.0	Not received	15.62	ditto.	Not received 12th to 16th June.
	Nathia	3.40	1.61	21.50	ditto.	
	Iskandar	0.10	Net received	2.07	18th June 1871.	
	Iskandar	1.05	2.04	2.12	25th June 1871.	
	Manesar	3.00	1.40	14.21	ditto.	
	Serampore	4.62	3.11	2.03	ditto.	
	Jangtsingpore	1.31	3.17	2.73	ditto.	
	Ludhiana	2.23	3.61	13.75	ditto.	From 18th June.
	Junnakab	0.17	2.97	15.40	ditto.	From 17th April.
	Patna	1.75	1.45	2.00	ditto.	
	Geometically	0.0	Not received	5.02	23rd April 1871.	
	Serampore	2.03	1.80	2.90	25th June 1871.	
	Rungpore	2.00	1.00	31.49	ditto.	
	Bawangunge	3.65	0.18	30.42	ditto.	From 22nd Jan.
	Tiratya	0.47	0.00	19.26	ditto.	
Berar	Bardwana	0.0	1.11	17.22	ditto.	
	Curnia	1.51	2.02	19.95	ditto.	
	Curnia	9.76	1.52	25.71	ditto.	
	Bham-Bham	6.68	0.20	21.83	ditto.	
	Bham-Bham	1.10	2.48	22.06	ditto.	
	Bham-Bham	1.34	2.70	17.63	ditto.	
	Sone	2.12	2.10	15.92	ditto.	
	Bawali	2.00	2.18	27.15	ditto.	
	Serampore	1.96	1.02	21.66	ditto.	From 2nd Mar.
	Jehangulal	1.93	1.00	17.49	ditto.	From 31st April.
	Hoppan	3.55	4.16	43.15	ditto.	
	Manapore	1.20	1.20	23.37	ditto.	
	Contar, { By. Colic's Office,	1.05	1.40	23.70	ditto.	
	{ Engt's Office	1.10	2.64	30.43	ditto.	
	Burdolla	1.32	2.03	19.23	ditto.	From 6th Feb.
	Tumlock	0.30	1.00	09.38	ditto.	

DISTRICTS.	Stations.	R. - Fall from 1st to 15th June 1871.	R. - Fall from 16th to 25th June 1871.	RATE FROM 1ST JANUARY 1871.		REMARKS.
				Rain.	Up to date.	
BURDWA	Kodhingboi	1.89	1.90	21.90	25th June 1871.	
	Bangardat	2.39	1.23	32.12	ditto	
	Liongat	1.63	0.82	25.04	ditto	
	Mohorpat	3.03	1.98	28.34	ditto	Not received 15th to 21st May
	Chandrapur	2.65	2.15	31.00	ditto	
	Kondhuli	1.23	1.53	37.10	ditto	
	Jessore	3.16	0.93	31.51	ditto	
	Rhulnouli	0.18	0.15	31.12	ditto	From 18th Feb.
	Jamidih	2.21	0.01	35.50	ditto	From 6th March.
	Nurail	3.22	1.2	27.01	ditto	From 3rd April.
	Magnorah	0.40	1.13	19.85	ditto	ditto
	Hugrahat	1.43	1.83	28.03	ditto	ditto
	Sunder Island	3.50	1.50	31.80	ditto	
	Calcutta	1.01	0.53	41.92	ditto	
	Alipore { Jail	0.90	0.23	46.00	ditto	
	Hospital	2.13	0.23	15.75	ditto	
	Barrackpore	1.95	Not received	32.50	15th June 1871	
	Dum Dua	1.53	0.0	26.14	ditto	
	Burman	0.63	0.63	21.78	ditto	
	Shakurpur	3.93	0.0	22.71	ditto	
	Bhorehat	1.61	0.0	20.03	ditto	
	Diamond Harbour	0.79	0.0	30.24	ditto	
	Berapore	2.81	0.0	32.68	ditto	
	Calcutta { Telegraph Office	0.52	1.05	37.50	25th June 1871	
	Jail	0.60	1.10	21.60	ditto	
	Burman	0.13	0.73	21.51	ditto	
	Bawali Khan	3.70	2.72	11.23	ditto	
	Perazepore	1.87	2.71	31.35	ditto	
	Madhupore	1.10	2.63	21.00	ditto	
	Furnessmore	2.30	2.65	21.70	ditto	
	Beulabunder	1.77	1.92	27.01	ditto	
	Mymensingh	2.07	2.57	17.73	ditto	From 5th June
	Jamalpore	0.0	Not received	22.38	11th June 1871	
	Attock	3.20	0.0	27.91	18th June 1871	
	Kashmarghat	0.60	3.63	11.21	27th June 1871	
	Sylhet	0.45	2.07	35.04	ditto	
	Chunar	0.14	1.61	28.76	ditto	
	Hyderabad	0.37	Not received	12.81	18th June 1871	
	Koyah	0.0	Not received	1.83	11th June 1871	
	Chittagong { Telegraph Office	8.10	2.63	31.70	15th June 1871	
	Jail	9.07	2.13	31.91	ditto	
	Cox's Bazar	11.73	Not received	36.04	18th June 1871	
	Langapadan Hill	3.01	0.0	25.03	ditto	
	Sanktmaur	4.51	1.1	43.1	25th June 1871	
	Tipperah	2.0	2.12	31.02	ditto	
	Brahmanbaria	0.82	2.05	40.50	ditto	
	Arat	26.00	0.0	22.91	ditto	
	Bux	41.5	0.0	42.28	ditto	
	Gowaintran	2.10	1.43	40.10	ditto	
	Dhurure	1.41	1.20	30.07	ditto	Not recorded 27th Feb. to 6th March.
	Tum (Garo Hill)	1.61	Not received	37.50	15th June 1871	
	Dhankutia { Telegraph Office	Not received	10.10	27.95	11th May 1871	
	Jail	1.84	7.40	21.10	27th June 1871	
	Bengalpur	0.0	Not received	28.04	ditto	
	Ramnagar	0.0	0.0	21.31	ditto	
	Jalpaiguri	1.90	2.51	27.54	ditto	
	Burd	0.95	0.05	22.20	ditto	
	Terpore	5.14	Not received	38.93	15th June 1871	
	Nawrang	2.17	0.0	31.75	ditto	
	Mungledew	8.04	0.0	28.90	ditto	From 30th June
	Burpore	1.85	0.0	29.29	ditto	
	Chowdhury	0.69	0.0	29.50	ditto	
	Sundarban	3.61	0.0	31.00	ditto	
	Terpore	5.71	0.0	28.67	ditto	From 27th Feb.
	Golaghat	0.43	0.0	32.90	ditto	
	Nasirabad	6.21	0.0	38.21	ditto	
	Dibrugarh	0.98	0.0	19.11	ditto	
	Suddha	6.71	0.0	35.50	ditto	
	Silhore	0.79	0.0	30.90	ditto	
	Cherrapoonjee	10.23	4.56	117.40	25th June 1871	From 18th Feb.
	Dowri	2.44	Not received	51.05	18th June 1871	
	Samengadabone	0.0	ditto	13.00	11th June 1871	

HENRY F. BLANFORD,  
Meteorological Reporter to the Govt. of Bengal.

CALCUTTA,  
The 1st July 1871.

**Results of the Meteorological Observations taken at the Surveyor-General's Office, Calcutta, from 22nd to 30th June 1871.**

Month.	Date.	Mean reduced barometer.	THERMOMETER.				Mean degree of humidity.	WIND.				GENERAL REMARKS.	
			Highest reading.	Lowest reading.	Max. solar radiation.	Mean dry bulb.		Prevailing direction.	Alt. pressure.	Daily velocity.	Knots.		
June	22nd	30-406	88-4	80-6	...	82-1	80-2	78-9	0-00	S E & E S E	10	21-6-7 0-84	Overcast & strato. Rain at midnight, 10, 11 A.M., 1 $\frac{1}{2}$ , 2 $\frac{1}{2}$ , 3, 5, and 7 P.M.
	23rd	30-426	80-3	80-0	138-9	82-2	80-3	72-0	-91	E S E & S E	0-8	27-3-8 0-15	Stratoni, cumuli, & some cast. Thunder at 10 P.M. Slight rain at 1, 3, 11 A.M.; 2, 3, 7, and from 9 to 11 P.M.
	24th	30-420	84-3	80-0	...	81-0	80-2	79-0	-98	E S E & S	...	25-1-6 1-68	Overcast. Thunder at 2 $\frac{1}{2}$ and 8 $\frac{1}{2}$ P.M. Lightning at 2 $\frac{1}{2}$ P.M. Rain after intervals.
	25th	30-531	90-7	78-5	200	80-4	79-0	78-6	-92	S W & S S E	...	85-0 0-44	Cloudy overcast. Rain at 1 $\frac{1}{2}$ and 3 A.M., and 4 P.M.
	26th	30-536	83-5	79-0	128-6	81-2	79-3	78-0	-90	S S W	...	16-9-2 0-02	Stratoni and overcast. Light rain from 7 to 11 A.M.
	27th	30-501	84-5	78-7	137-0	81-7	79-2	77-8	-90	S S W & S W	0-8	17-9-1 1-12	Chiefly overcast. Rain from 1 $\frac{1}{2}$ to 6, at 11 and 12 A.M., and 6 P.M.
	28th	30-510	88-0	78-7	114-0	82-0	79-8	78-3	-89	S S W & S W	0-8	130-0 0-91	Overcast and strato. Slight rain at midnight from 8 to 10 A.M., and between 7 and 8 P.M.
	29th	30-598	88-6	78-5	110-6	81-6	79-6	78-2	-89	S S W & W	2-0	78-9 1-82	Overcast and strato. Rain from 3 to 11 P.M.
	30th	30-636	80-4	78-4	154-0	82-8	80-3	78-5	-87	W N W, S W & S S W	...	08-9 0-47	Overcast and strato. Thunder at 1 A.M. Lightning at 1 A.M., and from 8 to 10 P.M. Rain from midnight to 4 A.M.; at 1, 3, and 11 P.M.

The mean barometer, as likewise the dry and wet bulb thermometer means, are derived from the twenty-four hourly observations made during the day.

The dew-point is computed with the Greenwich constants.—The figures in column 10 represent the humidity of the air, the complete saturation of which being taken at unity.—The receiver of the lower rain gauge is 1 $\frac{1}{2}$  feet, and that of the anemometer 70 feet 10 inches, above the level of the ground.—The velocity of wind, as indicated by Robinson's anemometer, is registered from noon to noon.

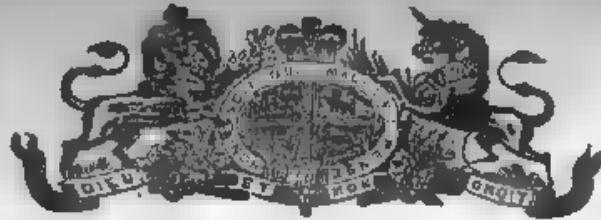
The extreme variation of temperature during the past nine days	13-0
The max. temperature during the past nine days	89-4
The max. temperature during the corresponding period of the past year	91-8
The mean humidity during the past nine days	0-91
The mean humidity during the corresponding period of the past year	0-86
	Inches.
The total fall of rain from 22nd to 30th	6-90
... { by lower rain gauge	6-48
... { by anemometer gauge	3-86
Ditto, average of seventeen previous years	48-31
Ditto, between the 1st January and the 30th June	23-90
Ditto, ditto, ditto, average of seventeen previous years	23-90

GOVERNMENT SEN,  
In charge of the Observatory.

The 3rd July 1871.

No. 28

of 1871



# SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JULY 12, 1871.

## OFFICIAL PAPERS.

*Non-Subscribers to the GAZETTE may receive the SUPPLEMENT, separately, on payment of six Rupees per annum if delivered in Calcutta, or twelve Rupees if sent by Post.*

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### Proceedings of the Council of the Lieutenant-Governor of Bengal for the purpose of making Laws and Regulations.

Saturday, the 8th July 1871.

#### Present:

His Honor the LIEUTENANT-GOVERNOR OF BENGAL, presiding.  
A. R. THOMPSON, Esq.,  
S. C. BAYLEY, Esq.,  
V. H. SCHALCH, Esq.,  
C. E. BERNARD, Esq.,  
MOULVIE ABDQOL LUTEEF, KHAN BAHADOOR,  
F. F. WYMAN, Esq.,  
RAJAH JOTEENDRO MOHUN TAGORE, BAHADOOR,  
T. H. WORDIE, Esq.,  
and  
BABOO DIGUMBER MITTER.

#### DISTRICT ROAD CESS.

MR. SCHALCH moved that the report of the select committee on the Bill to provide for local rating for the construction and maintenance of roads and other means of communication be taken into consideration in order to the settlement of the clauses of the Bill. He said that the amendments and alterations which had been made by the committee were specified in the report. He did not therefore propose to give any general explanation of what those amendments were, but he would reserve any observations he had to make with regard to them as each section came before the Council.

THE PRESIDENT said that in putting the motion to the Council, he would like to take the opportunity of tendering his best thanks to the select committee for their labours in regard to this Bill. He believed that the Bill had emerged from the committee very vastly improved, and he might say, without any disparagement to the eminently able and useful labours of the official members of the committee, that we were also most especially indebted to the non-official members of the Council who sat upon the committee, and who had been good enough to afford us their assistance in this matter. We feel the more under obligations to those hon'ble members, inasmuch as he believed they were originally not wholly prepared to accept the principle upon which the Bill was founded. Nevertheless, that principle having been asserted and accepted by this Council, those hon'ble members (Baboo Digamber Mitter and Mr. Wordie) had been good enough to give us most loyal and able assistance in carrying out the details of this Bill. And His Honor had no hesitation in saying that from all that he had learned and seen, he believed we may congratulate ourselves upon this, that owing to the labours of those hon'ble members the Bill had been put into a very much more practical and workable form; that was to say, that owing to the labours of those members of the committee, it had emerged from the hands of the committee in a shape in which he hoped the Council and the public may be able to accept it with very little further amendment.

As respects the important amendments which had been noticed by the committee in their report, he would only notice one or two points. No doubt, as a matter of theory, the Bill, as an instrument for obtaining a complete valuation of all lands in Bengal, would not be now so perfect, since the option had been given of assessing estates paying under one hundred rupees in what he might call a somewhat arbitrary manner. But, individually, His Honor was convinced that enormous practical advantage would result from this amendment, inasmuch as the recorded number of estates would be enormously diminished, the work of rating would be smaller, the diminution of work would be great, and possibly the diminution of receipts would be small.

Then, as respects another very important amendment, made with the view of meeting objections which had been expressed both in and out of this Council—the amendment which has struck out the harsh and peremptory use of the Sale Law, and substituted a more moderate means of recovering arrears of assessment under this Act—he might say that he himself looked upon that amendment as a great improvement. He was aware that this amendment would not be popular with collectors: it was an amendment which would throw upon them a very considerable additional burden. He was even free to confess that some of our most experienced officers had doubts as respects the working of this portion of the Bill as it was now amended by the select committee. It was possible that they might be justified by after events: at the same time, speaking for himself, he would say that the Sale Law was altogether a harsh one, and one which it would be desirable to amend as far as possible; and therefore it was in every respect both right and proper that we should at all events first try some milder means of collecting money under this Bill, and if those means failed, then we might try some harsher measure; because, if the Council should be pleased to pass this Bill, we should not allow ourselves to be trifled with, but we should, if necessary, devise some other means to collect the money. But he hoped and believed that we shall succeed in collecting the money under the mode proposed by the committee, or in any other mode which the Council might think fit to introduce into this Bill, and that we shall not have to regret having avoided a method of collection which was opposed alike to the feelings of the Council as to the general community. With these few words, he begged to put the motion to the Council. The effect of that motion would, he believed, be that the Bill would be taken into consideration in the form proposed by the select committee, and not in the form in which it was originally introduced in Council.

The motion was agreed to.

The consideration of sections 1, 2, and 3 was postponed.

Section 4 was agreed to.

Section 5 having been read—

MR. SCHALCH said, an alteration of rather an important character had been made by the select committee in this section. As the section stood, it required the holder of every estate and tenure to furnish a return; but information was called for by the Board of Revenue, and from their records a statement was prepared showing the number of estates paying a revenue to Government of over one hundred rupees, and the number of estates whose revenue fell below that amount. It was found, that taking the permanently-settled districts alone, there were 27,770 estates paying each a revenue of over Rs. 100 and aggregating within a few rupees of three crores, while there were 166,000 estates paying a revenue of something under 21 lakhs. This was altogether independent of the temporarily-settled estates. In some districts the proportion was peculiarly large in regard to small estates. In Chittagong, out of 38,118 estates, 28,000 paid less than Rs. 50, and 502 less than Rs. 100. In Sylhet there were 7,944 estates permanently settled; of these, all but 163 paid less than Rs. 100. In Cachar a similar state of things existed. We found there about 77,800 estates paying a little over 4½ lakhs of rupees, and 20,000 estates with a revenue of Rs. 62,000—only 464 estates paying more than Rs. 100, and 25,000 paying less than one rupee. In such cases it would be very unadvisable to require these elaborate returns; and it was therefore accepted by the committee that they should prescribe a summary mode of assessment in the case of estates paying less than Rs. 100, with ample power given to the proprietors to object to the assessment, if they considered it too heavy, by giving in their returns. The mode in which that process was defined was prescribed further on in a subsequent section, and he would therefore postpone his remarks as to the procedure in respect of these estates. He would merely now mention that although the alteration in the section under consideration departed in some measure from the principle adopted in the Bill, which requires the assessments to be made upon the returns furnished by the proprietors of the gross rental of their lands, he hoped it would immensely facilitate the working of the Bill without, on the one hand, inflicting any injury on the proprietors so assessed, or on the other hand, subjecting the Government to any great loss owing to undervaluation of the tenures.

The section was then agreed.

Section 6 having been read—

BABOO DIGUMBER MITTER moved to omit from the section all the words from the word "and" in line 9 to the word "provided" in line 21. He said that the ground for making this motion would appear from the amendment which he would propose in section 7, and therefore it would be necessary to take both the amendments together.

THE PRESIDENT said, the amendment which the hon'ble member intended to propose in section 7 would, he thought, more properly come in section 6. It appeared to him that it would be quite impossible to give up the penalty provided in section 6 until some other penalty should be substituted for it. The difficulty would, he believed, be got over if the hon'ble member would move the amendment which he proposed for section 7 as an amendment in section 6.

MR. SCHALCH suggested that the consideration of section 7 should be proceeded with before section 6.

The consideration of section 6 was then postponed till after the settlement of section 7.

BABOO DIGUMBER MITTER then moved, in section 7, to omit all the words from the word "every" in line 5 to the end of the section, and substitute the following:—

"the collector may fix the annual value of the lands comprised within the estate or tenure in respect of which no return shall have been lodged, at such multiple of the revenue or rent payable therefor as he may think fit, or in any other manner as to him shall seem expedient. Provided that the holder of any such estate or tenure may, within one month from the posting of the valuation roll in respect thereof under section XVII., lodge a return in the form in Schedule (A) contained in regard to such estate or tenure, and thereupon the annual value of the lands comprised therein shall be fixed at the amount entered in such return, subject to the provisions of sections XII., XIII., and XIV. Provided further, that when lands comprised within an estate or tenure shall be valued as aforesaid, on failure to lodge the said return within the said period, no portion of the cess payable therefor shall be recoverable by the holder thereof from the holder of any tenure comprised in such estate or tenure, or from any cultivating ryot thereof."

He said it was to obviate the necessity of the penal clauses of this Bill, that is, the levy of fines, and disqualifying defaulting parties from suing for rents, as also to dispense with the necessity to supersede the clause calling on the collector to make a valuation in cases where parties had not availed themselves of the power to submit returns, that this amendment was moved. He thought the process here proposed was just as efficacious—to compel parties to produce their papers from the fear of having to pay according to an assessment by the collector, which would be a very high surcharge, and not being able to recoup themselves from their under-tenants or ryots.

THE PRESIDENT said he must oppose this amendment as an amendment on section 7. Section 7 was a section complete in itself. It was not strictly of a penal character. It simply proposed that a man who was in a state of contumacy, who had after warning failed to submit his return, should not be allowed to use the courts for the purpose of collecting his rents. His view was that the amendment of the hon'ble member was worthy of consideration as a substitute for the penalty provided in section 6; but His Honor was altogether opposed to the substitution of any such amendment for the disability proposed by section 7. It seemed to him that whatever positive penalty we might pass in section 6, section 7 was a section that ought to stand, and one which we ought not to abandon. It was a simple disability under which the zemindar laboured who was in a state of disobedience and contumacy against the law.

BABOO DIGUMBER MITTER said, the disability might in many instances overtake innocent parties on whom notices had not been served. It was admitted on all hands in committee that there would be difficulties attending the due service of notices, and hence it would be very often that the innocent parties would suffer for the guilty. So far as regards fines, no doubt it would only be enforced on proof of due service of notice, but the disqualifying clause would be in operation until the returns called for had been lodged, whether or not the party had been previously served with the notice. It might very often happen that the first notice a man had, that he was required to file certain returns, was on his going into court, and not being allowed to sue; it was nothing but fair and proper, under the circumstance, that a reasonable time should be allowed to him from that date for submitting a return. But the disqualifying provision of the Bill would not admit of relaxation under any circumstance, save the production of the required papers. This he thought was extremely hard.

THE PRESIDENT would ask the hon'ble member whether he thought any zemindar would be so ignorant, after all these discussions, as not to know that these returns would be required.

BABOO DIGUMBER MITTER said, he believed that a vast number of zemindars were more ignorant than ryots.

MR. WORDIE asked whether the punishment was not disproportionate to the offence. In a country like this, where the revenue laws were carried out with great stringency, and where a man's estate was sold up for arrears of revenue, it would be an extreme course that for his recusancy he should not be allowed to collect his rents. He thought it could be shown, from the policy of the Government for many years back, that there ought to be some proportion between the offence and punishment. In old times capital punishment was inflicted for very trivial offences; and the punishment here proposed was of such severity that it might be called capital in the circumstances. If a man would not submit his return, fining him fifty rupees a day was a sufficient penalty, and it might be expected that he would then come forward and do what was required. But if it was said he was not to recover his rents, particularly where there might be a disposition on the part of his tenants to refuse payment, in such cases the disability to sue would act as an incentive to under-tenants to hang back and throw difficulties in the way of collection. Under these circumstances he (Mr. Wordie) thought we ought to stop at section 6, and strike out section 7 altogether.

MR. RIVERS THOMPSON said, it did not seem very clear what section it was proposed to amend. The hon'ble member who spoke last would retain the penalty under section 6, and do away with the disqualification under section 7; while, as he (Mr. Thompson) understood the amendment, the hon'ble mover

would stop at the 9th line of section 6, and do away with the penalty of fifty rupees, and qualify the procedure under section 7. It seemed to him that the two things were in some sense different. The penalty under section 6 was very much more personal than the disqualification under section 7. If the zemindar refused to furnish his return, he would be liable to a penalty of fifty rupees a day as long he chose to refuse, and under such a liability he would think twice before he withheld what he could easily supply; whereas, even with the disqualification under section 7, there were means which the zemindar could resort to for bringing his sub-tenants and ryots in accordance with his own views, and arranging so that personally he should suffer no inconvenience from the disability to sue, and thus the operation of section 7 would be a dead letter. Therefore he (Mr. Thompson) thought that the Council should first carefully consider section 6, and decide whether or not there should be a personal penalty for refusing or neglecting to give in a proper return, and then consider the further question whether the disqualification to sue should also be applied to the same recusancy. He was inclined to maintain section 6 in its integrity.

MR. WYMAN said, it seemed to him somewhat harsh to attach two penalties to one offence. He believed that the penalty of fifty rupees a day was so heavy that a recusant zemindar was not likely to incur it, and in most cases it would amount to more than was proposed to be realized as a cess. His Honor had justly remarked that no doubt a man who refused to obey the law should not have the protection of the law, and there was certainly great force in that argument. But the question was whether, if section 7 was allowed to stand as it was, the penalty of fifty rupees should be allowed to remain at its present maximum. He thought that if the fine of fifty rupees was retained at its maximum under section 6, section 7 should be done away with. Either the penalty should be reduced, or section 7 should be amended.

THE PRESIDENT said, his suggestion was that the hon'ble member should bring forward his amendment as an amendment on section 6; he thought also that the hon'ble member on the right (Mr. Wordie) had taken an exaggerated view of the severity of the penalty. All rents were not collected by process of law. To deprive a man for a few days of the power to sue till he should submit the return which he ought to have given in before, was not a very great hardship. Then, with regard to the exceptional case when a man had not it in his power to produce his return within the proper time, he might say to the collector that he laboured under such and such difficulties, and if he had good grounds, say the case of a new auction purchaser of an estate, the collector would give him more time: a case of that kind would be dealt with by the collector at his discretion. It seemed to His Honor that the provisions of section 7 were really not severe. He should like to say this with regard to section 7: we were in this stage of the Bill that we were not supposed to know who the zemindars were; we do not know who are to give in returns; we wish to have a penalty which would force some one to submit a return; and to do this, we should either impose a penalty, or disable the owner from coming into court, or do both. There seemed to him no reason why we should not do both. If the hon'ble member elected to proceed with his amendment as an amendment on section 7, His Honor should oppose it; but he should be glad, in accordance with the suggestions of the two hon'ble members who had spoken last, to give the hon'ble member the opportunity of moving an amendment with reference to section 6.

BABOO DIGUMBER MITTER said, his object was to do away with both the sections. He thought the amendment which he had proposed was stringent enough to compel the submission of returns. There was, besides, another object in view, namely, to do away with the 11th section of the Bill, which provided for valuation by the collector in cases where no return was submitted. He did not see that in making the valuation the collector had any other choice than to receive upon trust whatever the tenure-holders or the cultivating ryots might admit to be their respective rents, and these might be considerably understated; while the only other mode of fixing the valuation, *viz.* by measurement and assessment according to present value of lands comprised within the estate, would argue competency in the collector to assess the ratepayer upon more rent or profit.

than he actually paid or derived, which he need not say was diametrically opposed to the principle of assessment adopted in the Bill. The amendment which he had proposed was well calculated.

MR. SCHALCH said, he believed the Council had now before them the proposed amendment of section 7. Looking into the Bill, he found that sections 6 and 7 formed practically one section, because section 7 was a mere extension of the penalty prescribed for the non-submission of the return required by section 6. He thought, therefore, that in discussing this question we must consider sections 6 and 7 of the Bill together, as well as the amendments proposed in those sections. It appeared to him that the facts of the case stood thus. Under the Bill as it stood, if the return was not submitted, the holder of an estate or tenure so failing would be liable to a daily fine; then he would not be able to sue for rent until the return should be given; and lastly, by a subsequent section power was given to the collector to value the estate or tenure on the continued persistence of the proprietor in refusing to submit the return. For that course the hon'ble member proposed to submit this, that on the lapse of the date on which the return should be given, the collector should have power at once to assess the estate either on a calculation based on a multiple of the sudder jumma, or in any other way that he thought fit, it being understood that the assessment would be a penal one in the nature of a surcharge, and probably would be put so heavy that it would force the zemindar to give in a return. Or if this surcharge should not prove effectual, a further penalty would be added, that in cases where the estate was so assessed by the collector in the absence of a return, the zemindar would have no power to recover any portion of the cess from his under-tenants, but must pay the whole himself: and the hon'ble mover of the amendments supposed that these two penalties, first, a very heavy surcharge on the estate, and secondly, that the zemindar would have to pay the entire cess, would be sufficient to procure the submission of returns. Now, with regard to this, there was, first, the difficulty of the collector surcharging. Probably, if he (Mr. Schalch) were to tell his hon'ble friend that the collector had determined to surcharge to the extent of ten or twenty times the Government revenue, he would say that it would be a sufficiently harsh measure. But on looking over many of the returns that were received in the Board of Revenue for estates under the court of wards, he found that an estate which paid a revenue of Rs. 2,500 had a mofussil jumma of Rs. 1,20,000, about  $51\frac{1}{2}$  times the sudder jumma. Well, it was very clear that by taking what would appear to be a very high rate, we should in most cases be fixing a heavy surcharge, and induce zemindars to give in their returns; but there were cases in which no multiple of the revenue, that would probably be taken, would really represent the annual value of the land, and we might fairly presume that no zemindar or holder of a tenure would give in a return until he knew what assessment the collector would fix upon. You might safely say that if the collector fixed upon a value considerably less than the rental, the zemindar would remain satisfied; but if the collector fixed upon a higher sum, the zemindar would give in his return. Because if the collector fixed upon a less sum, the zemindar would have to consider whether the payment of the cess would be greater than the sum he would have to pay on his own return, deducting the amount recoverable from his under-tenants. He would wait to see which calculation would suit him best, and the effect of the amendment would be to throw back the delivery of the returns for at least three months. Then, on the other hand, the procedure proposed in the amendment would have this advantage, that if the return were not made within four months, the assessment fixed by the collector would become final, and within four months the assessments would be completed. On the other hand, under the procedure proposed by the special committee, if the returns be not given within three months, there would be still another month before the collector could proceed to make the valuation, and that operation would probably be a matter of considerable labour and delay; although it was to be hoped that these valuations would have to be made only in very exceptional cases, since the penalties prescribed by the Bill would first be inflicted, and under them the returns would probably be given. We had then to consider whether it was better to adopt the procedure suggested in the amendment, with the probability of possible loss by under-valuation, accompanied with the delay of a month, or

whether we would adhere to the sections as they stood in the Bill. He thought there were advantages on both sides. The chief objection to the amendment was, in his opinion, that it tended to set aside the principle of the Bill, which he took to be that every man should be assessed on his own valuation. That principle was now proposed to be set aside in favor of a very haphazard one. He believed, however, that the penalty of having to pay the whole assessment would operate as a much stronger inducement than the infliction of fines to the zemindar to give in his return, because we know that under the Partition Law, where similar returns are not given in by shareholders, a man would go on from week to week and month to month in the hope that by some way or other they would get off payment of the fine, and the result was that before the returns could be obtained the share in the establishment might be sold. But in any case he thought we must still very carefully retain the provision in section 7 of our Bill: no similar provision was made in the proposed amendment. The provision is to the effect that where a return was given, that return should be held to be evidence of the amount of rent; if this were not retained, there would be no security for the correctness of the return; and therefore it should be distinctly understood, before the amendment was accepted, that a rider would be put upon it to that effect. He might say that one great reason which recommended this amendment to his mind for acceptance was, that we thereby got rid of the vexatious penalty of disabling the zemindar from suing for the rent of the land in case of his refusing to give in his return. For his own part he did not think it hard, because the zemindar had had notice to perform a certain duty, and it was only on wilful failure to obey the law that the penalty came into force. The hon'ble member on his left (Mr. Wyman) had said that there was no necessity for a double penalty, the penalty of a daily fine, and in addition a penalty of withdrawing the power to sue for rent. He (Mr. Schalch) believed that a fine would not operate with sufficient severity, and it was only by the infliction of the second penalty that we should get the return. On the other hand it might be said, "very good, leave out the fine and adhere to the second penalty." He believed that in many cases there might be estates so situated, where there were ryots without proprietary rights, that the want of the power to sue would be a mere nominal penalty, because in cases of that kind rents were recovered without having recourse to the law. We therefore did require a double penalty in any case. The question then for the Council was to consider whether we should substitute for the existing penalties provided in the Bill the penalties proposed in the amendment. For some reasons he thought the latter penalty would be more effectual, but there were other objections which went to the principle of the Bill, and undoubtedly the amendment would involve delay in the completion of the general assessment.

THE PRESIDENT said, his view still was that under any circumstances section 7 was necessary. It seemed to him that the hon'ble member on the left (Mr. Schalch), who had fully discussed the question, had somewhat under-estimated the dilatory character of the proceedings. We must remember that at best the process under this Bill was but a slow one. The select committee had given great consideration to the zemindars. First, the collector must get out his proclamation, and that was to run a month; then he was to go through the whole process of preparing and serving notices on the zemindars: this would take some time; then those notices would have to run three months. When that time had run out, why then the collector must consider at what rate he was to value the estate, unless he adopts some absurdly penal rate—unless he estimates it a thousand times the sudder jumma. He must inquire what kind of a zemindaree it was, and what the value and the nature of the property, before he could put a sufficient valuation. His Honor did say that as far as his own individual opinion was concerned, you must have some penalty for the non-submission of returns; and in his view a necessary penalty, having regard to the dilatory process under the Bill, was that as long as a man exercised his dilatory rights he must be disqualified from suing for rents. Therefore, taking the present motion as an amendment on section 7, he must vote against it.

The amendment was then negatived, and the section was agreed to.

## Section 6 having been read—

MR. WYMAN moved the substitution of the words "Rs. 10" for "Rs. 50" in line 16. He said, he thought it was not absolutely necessary to make this penalty so high. Many a zemindar was a poor man, and the imposition of a daily fine of Rs. 50 on such a man would entirely ruin him. Seeing that there was a strongly punitive provision provided in section 7, we could well afford to lessen the amount of the penalty under section 6. He thought that a daily fine of Rs. 10 would be quite sufficient, considering that the majority of the zemindars were poor; and it could hardly be supposed that the rich and intelligent zemindars would evince a disposition to evade the requirements of the law.

MR. RIVERS THOMPSON said, the hon'ble member seemed to think that the fine of Rs. 50 was a fixed penalty. The clause said that the fine "may extend to Rs. 50." A great deal would be left to the discretion of the collector. In the case of many small estates, of course the collector would not impose the maximum penalty; and in some cases, as pointed out by the hon'ble mover of the Bill, the penalty of Rs. 50 would scarcely be sufficient. He thought, therefore, that there was sufficient reason for retaining the penalty at the rate prescribed by the Bill.

MR. SCHALCH said, there was a very similar provision in the law for the partition of estates, by which a shareholder refusing to produce his papers was liable to a daily fine until he produced them. In that law there was no maximum of penalty fixed: it might be imposed to any extent which the collector and the Board of Revenue might determine. Yet under that law it was found that even that provision was in some cases insufficient.

THE PRESIDENT said, the hon'ble mover of the amendment must see that in the case of very large estates a fine of Rs. 50 a day would really be a small penalty. It must be left to the discretion of the collector to impose a fine according to the circumstances of each case.

MR. WYMAN said, after what had been said he would by leave withdraw his amendment. His reason for moving it was to prevent a man being harshly treated: it was to be hoped that the collector would exercise a proper discretion in fixing the amount of fine.

The section was then agreed to.

## Section 8 having being read—

MR. SCHALCH said, this new section had been introduced to obviate the necessity of calling for returns in the case of small estates. The section provides that the collector shall have power to assess the annual value of a small estate, or of a small tenure of a large estate, to the extent, in permanently-settled estates, of three times the Government revenue or rent, and in the case of temporarily-settled estates, to the extent of twice the revenue or rent. Since the committee had reported, it had been brought to his notice that in regard to the districts where small estates were the most numerous, as in Chittagong and Sylhet, it would be a good plan to give the option to the collector to make his valuation by some other mode. As a rule, the committee objected to the principle of valuation by acreage, and he thought very properly so; but as regards these districts, there were circumstances connected with them which might render such a mode of valuation preferable to the mode provided in the Bill. In these districts these small estates had been thoroughly surveyed, and their area was accurately known: it had therefore been suggested to leave it to the option of the collector to fix the valuation upon the area. Our object was not to surcharge, and thereby force the parties to give in their returns, but rather to induce them by fair valuation to accept the assessment rather than be at the trouble to give in a return. He thought, therefore, that it would be expedient to give a discretion to the collector in regard to the mode of valuing these small estates. Further, the section appeared to be defective. The collector would know that the assessment of the entire estate or tenure would be so much, and would calculate his demand for the cess accordingly; but when it came to a settlement between the superior holder and the under-tenant, it would be a matter of impossibility for the superior holder to know what amount of cess he had got to recover from his under-tenant,

because he would have to make his demand on the annual value of the inferior holding. If a return was given, that would show the names of the inferior holders, then the collector would have the power to call upon them to state the value of the under-tenures, and on the information so given the superior landlord would be able to base his demand; but as in these cases no return would be submitted, it would be impossible to obtain the necessary information to enable the superior landlord to recover from the holder of an inferior tenure.

Therefore, in considering the question, it seemed to him that some provision must be introduced to enable the superior holder to make a demand upon his under-tenants for the share of the cess payable by them. Not thinking that the Council would advance so far in the settlement of the Bill, he had not given notice of an amendment, and as it was an important provision, he would ask that the consideration of the section be postponed to enable him to do so at the next meeting of the Council.

The further consideration of the section was postponed.

Section 9 having been read—

MR. SCHALCH said that this section was also entirely new. It was introduced to meet the case of lands used for the cultivation of tea, coffee, or cinchona. These lands were held in the actual occupation of the proprietor and were not let out, and it would therefore be impossible to ascertain what their annual letting value would be. The calculation on which they would have to be assessed would be so different from the process adopted in regard to other estates that the mode of procedure as regards other estates would not apply, and therefore the committee had proposed that instead of requiring a return showing the gross rental of the land, the return should show the actual area under cultivation, and the annual value of the estate should be held to be a certain fixed sum per acre of the cultivated portion of the estate. The committee had fixed that value at Rs. 10 per acre, which would give a cess, at the maximum rate, of five annas per acre, or half an anna on every rupee. Five annas per acre would be equal to a rate of about  $1\frac{1}{2}$  annas per beegah, and that was assumed to be about the rate that would fall on ordinary zemindary lands.

MR. WORDIE said he did not find fault with the rate proposed, but it seemed to him that the enterprise had hitherto been attended with so much difficulty, and was so young, that it could scarcely now bear a tax of this nature. He did not mean to say that roads were not wanted in these districts as much as in others, but it was to be remembered that they were frontier districts and that the principal means of communication would be for political purposes, and he asked therefore that some delay should occur before this section was introduced and the assessment put upon the gardens. He merely put this as a matter for His Honor the President's consideration.

THE PRESIDENT said, he thought it was due to the hon'ble member that this section had taken the form in which it was introduced in the Bill. By it great difficulty had been obviated in the mode of assessment of these estates. With respect to the hon'ble member's observations, he might say that the section would apply almost exclusively to tea plantations. The tea districts in which those plantations were formed were sparsely inhabited in comparison with other districts, and if this provision was introduced in those districts, the tax would principally fall on tea planters. With respect to the suggestion that there should be delay in the imposition of the tax in this matter, if he should continue to be the head of the Government, he should be very much guided by the wishes of the planters themselves. But he thought that perhaps communications were required more in those districts than in any other: in fact the want of roads had been so seriously felt that he believed it was at one time proposed to have a voluntary cess. It seemed to him that proper and sufficient means of communication were essentially necessary to the planters; but the hon'ble member must no doubt understand the wants and wishes of the planters better than His Honor could possibly do; and therefore, in regard to the suggestion that the Bill should not be enforced precipitately, His Honor was prepared to say that in regard to introducing the Bill in tea-planting districts, he would give much weight to the wishes of the planters.

If they did not want roads, perhaps it would not be necessary to introduce the cess in those districts.

The section was then agreed to.

Section 10 having been read—

THE PRESIDENT said, the committee were so fortunate in this matter as to have hit upon the exact plan suggested by the British Indian Association, as they were represented by the hon'ble member on the right (Rajah Joteendro Mohun Tagore). In the letter signed by him in his capacity of honorary secretary to the Association, which he had been good enough to submit to this Council, His Honor found, in regard to section 7 of the original Bill, which was now section 10, and section 19, under which dues would be realized, that the Association had in effect suggested what the committee had now proposed in section 10. He therefore trusted that the provision would be accepted as a good solution of the question. As he had said, it was in a certain sense an experimental provision, and if we found that it did not work satisfactorily, it would be necessary to devise some more stringent provision.

MR. SCHALCH said, it was felt when this Bill was introduced that it would be well if some other effectual process could be substituted for the provision which stood as section 7 for the recovery of fines. The result was the section before Council. He was not quite sure that in the amended Bill we had not done an act of cruel kindness. He believed the penalty introduced into the original Bill was so decided that it would never or very rarely be incurred, and he felt that much time, trouble, and nuisance would have been saved by its retention. He himself could recollect the time when at its introduction the present very stringent law for the recovery of arrears was objected to as harsh and oppressive; but the result had been just the contrary. Now the revenue was paid in punctually, and much pecuniary loss to the defaulter consequent on the mode of recovery previously in use was obviated. During the last year the number of estates sold for arrears of revenue were '03, or about  $\frac{1}{10}$  per cent., and in three-fourths of these cases the estates had been sold because they had suffered from diluvion, or there had been on the part of the owners a desire to have them sold on account of disputes, or some such cause, and the sales were in fact voluntary sales thus made, bringing in a very high value. He believed that if we had adhered to the original proposition we should have followed a far better course. He believed that now fines would be very often incurred. He was quite willing to give the proposed procedure a fair trial; but if, in consequence of combinations, or for any other reason, the provision was found insufficient for the recovery of the fines, he presumed that the proper course would be to enact a more stringent provision.

MR. RIVERS THOMPSON said, he had not the honor of serving on the select committee which introduced this amendment, but he was in the original committee which framed the draft Bill, where this question of the mode of realization was very largely discussed. Certain official members of the committee were strongly of opinion that both in the interests of those paying the cess and of the public generally, the mode of realization by the process provided by the Sale Law was the simplest and the best. He quite agreed with the hon'ble member opposite that this was a sentimental concession which would be but a cruel kindness to those whom it was intended to benefit; and he believed that it would throw a great burden on collectors, and that the result would be by no means so effective as the rule prescribed by the first committee.

MR. BAYLEY expressed his full concurrence with all that the hon'ble mover of the Bill had said on this subject. On a previous occasion he gave his opinion that the provision in the original Bill was a great defect. In committee the feeling was so strongly against it, that he concurred with the other members in accepting this as at all events the second best—not as he considered the best—process for the realization of fines and arrears.

BABOO DIGUMBER MITTER said, the process of recovering arrears by sales of estates would simplify the work of realizing fines, but he thought it was rather monstrous that a man's landed property should be sold for arrears of municipal rates. As far as the collection of fines went, there could be no question that that would be the simplest mode of realization.

RAJAH JOTEENDRO MOHUN TAGORE said, when we remembered that the zemindary dawk tax and other cesses were realized under some process similar to that now proposed, he did not see why the principle should be objected to in order to give additional facilities to the officers of Government for the realization of arrears of the road cess.

MR. BERNARD said, he should like to mention that in other parts of India, and in the place from where he had come, the revenue officers considered it a *disgrace* to sell up a man's estate for petty arrears. He had had five or six districts under his charge, and in them not a single estate had been sold for Government revenue. We had always got in every penny, and we had done that without selling up a single estate.

MR. WORDIE said, he had no doubt that the realization of the cess would easily be made under the present section; but if the arrears could not be collected by this process, he had no hesitation in saying that more stringent means must be adopted.

MR. WYMAN said, he had seen with much pleasure the introduction of this section. He thought it would have been a blot in the Bill if it had gone out of this Council with such a sledge-hammer in it as the provision for realization by sale of estates. He thought the convenience of the collector or anybody else had nothing to do with abstract principles of justice. No doubt the recovery of fines would be far more expeditious and summary under that principle; but he did not think that we should make a municipal law (for this Bill was nothing more than that) the terror of the people. The provision now introduced existed in other municipal enactments, and he thought it would have been a faulty policy to introduce a stringent revenue law for the recovery of fines imposed under a simple municipal law. He thought the effect of this provision would be to carry out the object desired, and that there would be no necessity for any alteration of a more stringent character.

MOULVY ABDUOL LUTEEF said, he was one of those in the select committee who supported the substitution of this section for the provision in the original Bill, as he found that its most objectionable feature was contained in that section. He therefore thought this was an improvement, and would be sufficient to remove a great deal of the objections which existed with regard to this Bill.

MR. RIVERS THOMPSON only wished to remark that "the sledge-hammer" used in these provinces was worked by a machinery that was fitted to break the hardest rocks as well as the smallest stones.

MR. SCHALCH said, the remarks which he had made applied to the provision for the recovery of fines. He was quite contented with the similar section for the recovery of the cess, since that would be recovered by the sale of the personal property of the person from whom the cess was due, and no difficulty would be experienced in ascertaining who that person might be. But with regard to the recovery of fines, you might not know whom you have to deal with. Then, if you go to the next mode and prohibit the payment of rents, you may attain the very result which it is desired to avoid, namely, the sale of the estate, because the attachment may tend to the indirect sale of the estate for arrears of revenue. Therefore he thought the two cases, that of recovery of fines and recovery of arrears, did not run on all fours. He thought the process of recovering arrears by sale of estates would better be likened to a steam-hammer which could be so adjusted as to break the hardest blocks or tap a small egg. He had himself been in districts where the revenue was not recovered by sale of estates but of personal property, and the result was, as he knew when he was in charge of the district of Balasore, that very often four or five times the amount of arrear had to be paid by the defaulter as the expense of the process of recovery. He had the satisfaction of introducing the Sale Law there, and he remembered that though it was very much objected to at the time—it being said that the poor Ooryas were improvident, and that their estates would very often have to be sold for arrears—it was found to work well and to the advantage of the people, for it was found that since the introduction of the Sale Law sales of estates for arrears were as little known there, except when the people wished to get rid of their estates as in other districts.